AMAZONIANA XIV (3/4): 223-300 Kiel, Dezember 1997

Pauropoda from upland and inundation forests in Central Amazonia, Brazil (Myriapoda, Pauropoda: Millotauropodidae, Pauropodidae)

by

Ulf Scheller

Dr. Ulf Scheller, Häggeboholm, Häggesled, 53194 Järpås, Sweden.
(Accepted for publication: June, 1997).

Abstract

A large collection of Pauropoda from upland and inundation forests in Central Amazonia has been studied from taxonomical point of view. Fifty-two species were found in 7 genera, one in Millotauropodidae and 6 in Pauropodidae. Two new subgenera are described, *Perissopauropus* in *Allopauropus* and *Nesopauropus* in *Cauvetauropus*. Twenty-five new species are described: *Millotauropus acostae*; *Allopauropus ieenus, A. tohoius, A. junki, A. anomaios, A. mirimus, A. korynetes, A. pachyflagellus, A. aius, A. hylaios, A. campinaranicus, A. careiroensis, A. kordylinos, A. disappendicalis, A. dischides, A. aduncus, A. amphikomos*; *Cauvetauropus biglobulosus*; *Scleropauropus rimatus, S. beritae*; *Polypauropus tchimbus*; *Polypauropoides naous, P. foliolus, P. monosetosus* and *P. cuneatus*.

Keywords: **Pauropoda, soil fauna, secondary forest, Amazonas, Neotropics, Brazil.**

Resumo

Foi investigada uma grande coleção de Pauropoda sob ponto de vista taxonômico, proveniente de florestas inundáveis e de terra firme na Amazônia Central. Encontrou-se 52 espécies, representando 7 gêneros. Dois novos subgêneros são descritos, *Perissopauropus* em *Allopauropus* e *Nesopauropus* em *Cauvetauropus*. Vinte e cinco novas espécies são descritas: *Millotauropus acostae*; *Allopauropus ieenus, A. tohoius, A. junki, A. anomaios, A. mirimus, A. korynetes, A pachyflagellus, A. aius, A. hylaios, A. campinaranicus, A. careiroensis, A. kordylinos, A. disappendicalis, A. dischides, A. aduncus, A. amphikomos*; *Cauvetauropus biglobulosus*; *Scleropauropus rimatus, S. beritae*; *Polypauropus tchimbus*; *Polypauropoides naous, P. foliolus, P. monosetosus* e *P. cuneatus*.

ISSN 0065-6755/1997/223/

Introduction

In my investigation of more than 700 Central Amazonian pauropods from a secondary forest, capoeira, near the Rio Tarumã Mirím north of Manaus 26 species were listed, 23 of which were new to science (SCHELLER 1994). The work is here prosecuted with a study of 5503 additional specimens from there and a material of 1067 specimens from other types of forests and a grazed pasture (Fig. 1) which means that almost 7300 specimens have now been studied from Central Amazonas. This extensive material has been collected by PD Dr. Joachim Adis, Plön, and his collaborators during their investigations of the ecology of Central Amazonian ecosystems. Their material is of such a great taxonomical interest that it has to be described.

About 3.7 million km^2 of the Brazilian Amazon are covered by vegetation. Most, 89 %, is dryland forests (terra firme) and 2 % inundation forests in the whitewater and blackwater areas (várzea and igapó respectively) (SIOLI 1956; PRANCE 1979, 1980). Floristically these forest types are composed of various subdivisions such as, e.g. capoeira, campina, campinarana.

Central Amazonia is subject to a rainy season (December-May: average precipitation 1550 mm), and a "dry" season (June-November: average precipitation 550 mm, but each month has some rain events; cf. RIBEIRO & ADIS 1984).

In the survey below the pauropods of the following ecosystems near Manaus (Fig. 1) have been studied:

(1) A secondary partially cut but not burned forest on yellow latosoil in a "terra firme" or non-flooded upland region close to a blackwater inundation forest (upper seasonal igapó) of the Rio Tarumã Mirím about 20 km upstream from Manaus, (TM), 03°02'S, 60°17'W. Samples were taken once per month in 0-7 cm soil depth during the rainy and dry seasons from August 1982 to August 1983. This type of secondary upland forest is referred to as "capoeira" (see ADIS & SCHUBART 1984; WOLF & ADIS 1992). Leg. Joachim Adis and José Maria Gomes Rodrigues.

(2) Campina (CPA), 02°35'S, 60°01'W, an upland region in the whitesand area of the Biological Reserve INPA/SUFRAMA, situated at 45 km on the Manaus - Boa Vista highway (BR-174), which has developed by podzolization and consists of mainly shrub vegetation (see CHAUVEL et al. 1987; GUILLAUMET 1987). The ground with either naked sand, covered by a thin layer of leaf litter, or patches of thick humus (10-50 cm) penetrated by a matting of roots and covered by a thick layer of leaf litter. Sometimes a surface layer of lichens. Collection has been made in both sand-dominated and humus-dominated layers. Samples were taken in 0-7 cm soil depth in February 1988 (rainy season). Leg. Joachim Adis et al.

(3) Campinarana (CPA), 02°35'S, 60°01'W (= caatinga arbórea), a primary upland forest of the Biological Reserve INPA/SUFRAMA, situated at km 45 on the Manaus - Boa Vista highway (BR-174). It is a low, relatively light forest on whitesand soil with thin-stemmed trees 10-20 m high with some exceptionally large broad-trunked individuals, with or without buttresses. Samples were taken in 0-14 cm soil depth in 1988 both in the rainy season (March) and the dry season (August). Descriptions of the campinarana forest are in GUILLAUMET (1987) and ADIS & MAHNERT (1993). Leg. J. Adis et al.

(4) Careiro Island (Ilha do Careiro) (CI), 3°10'S, 59°44'W, is the first island in the Amazon river below the mouth of the Rio Negro near Manaus, about 20 km E of

Manaus. The island is located at the confluence of the whitewater Solimões - Amazon River and the blackwater Negro River. A detailed characterization of the abiotic and biotic conditions is given by ADIS & RIBEIRO (1989) and MÉRONA (1993). Samples were taken in 0-7 cm soil depth in November 1986 (dry season) and March 1987 (rainy season) at two sites; an inundation forest and a plantation located at Igarapé do Rei near the drainage channel of the largest lake on the island, Lago do Rei. Both sites were annually flooded for about 6 months (February/March - August/September). Leg. J. Adis and E. Franklin.

(5) Lago Janauarí (LJ), 03°20'S, 60°17'W. The study site was situated on a spit between the Rio Negro and the Rio Solimões about 10 km from Manaus across the river. The region was influenced by blackwater of the Rio Negro during low water level and by whitewater of the Rio Solimões during the high water period. The study site in this seasonal mixedwater inundation forest (cf. PRANCE 1979) was flat and had no direct connection with non-flooded upland (= terra firme) areas. The soil consisted of clay, predominantly montmorillonite, which represented alluvial deposits of the Rio Solimões. A scanty litter layer was formed during the non-inundation period (August/September - April/May). It was mostly carried out of the forest by the current of the annual floodwaters and/or partially covered by sediments deposited during inundation. Further information on the study site is given by ADIS & RIGHI (1989) and ADIS et al. (1996). Samples were taken in 0-14 cm soil depth during the dry season (August 1987, 1988 and October 1987) and the rainy season (February 1988). Leg. J. Adis and J.W. de Morais.

(6) Praja Grande, about 30 km W of Manaus at the south bank of the Rio Negro. The area represents a blackwater inundation forest (see KLINGE et al. 1984). Samples were taken in 0-10 cm soil depth in August 1981 (rainy season). Leg. J. Adis et al.

(7) Fucada, a grazed pasture on yellow latosoil about 30 km N of Manaus at the Manaus - Boa Vista highway (BR-174). Samples were taken in 0-14 cm soil depth in March 1990 (rainy season) and September 1991 (dry season). Leg. J. Adis and E. Franklin.

Soil samples were taken at random intervals with a split corer, a steel cylinder with lateral hinges (diameter 21 cm), which was driven into the soil with a mallet. Animals were extracted from subsamples of 3.5 cm depth following a modified method of KEMPSON et al. (KEMPSON et al. 1963; ADIS 1987).

In the following, 52 species are accounted for 27 species previously reported from Amazonia (HÜTHER 1968, 1985: two species; SCHELLER 1994: 25 more species, 23 of which were new to science) and 25 nova species which are diagnosed and figured below. The genus *Rosettauropus* HÜTHER (1968) is enclosed into *Millotauropus* REMY, a new subgenus in *Allopauropus* is erected, *Perissopauropus*. One genus, *Cauvetauropus*, is new to the Neotropical region and is here divided into two subgenera, the nominate subgenus and the new *Nesopauropus*. The main part of the new species, 16, belong to *Allopauropus*, the others are distributed in *Millotauropus* 1 species, *Cauvetauropus* 1, *Scleropauropus* 2, *Polypauropus* 1 and *Polypauropoides* 4 species.

Because a large material from the capoeira at the Rio Tarumã Mirím already has been reported (SCHELLER 1994) the additional material from there accounted for below has not been specified in detail except when new species have been described from it.

The pauropods were classified as adults, subadults and juveniles according to the

number of pairs of legs as described in the systematic part. The sex was determined in the adults and subadults.

The type specimens and all other material have been deposited in the Systematic Entomology collections of Instituto Nacional de Pesquisas da Amazônia (INPA), Manaus, Brazil.

Systematics with description of species

Notes

* Abbreviations: ad. . . . and subad. . . ., an adult or a subadult specimen with the number of pairs of legs indicated; juv. . . ., a juvenile specimen with the number of pairs of legs indicated.

** Length of body except antennae, range of variation in adult (on certain occasions subadult) paratypes given in brackets.

Order Hexamerocerata
Family Millotauropodidae

Genus *Millotauropus* REMY, 1950

The family and the genus *Millotauropus* were designated by REMY in brief in 1950 (REMY 1950). There he divided the Pauropoda into Hexamerocerata and Tetramerocerata and enumerated four new species of the latter group, *Millotauropus silvestrii, M. hebetisetosus, M. machadoi, M. latiramosus*, and the first of them was designated as "génotype". However, the descriptions of these species together with a more detailed treatment of the genus did not appear until 3 years later (REMY 1953).

HÜTHER (1968) described the first Hexamerocerata from South America (NE Brazil, Serra do Navio, and Amazonas, near Manaus) and assigned his material, to a new species in a new genus, *Rosettauropus temporalis*. The characters separating the new genus from the more widespread *Millotauropus* (tropical Africa, Madagascar, Seychelles) were (1) the cup-shape of the temporal organs, the margins of which were turned up with no contact with the head cuticle (not so in *Millotauropus*), (2) that the maxillae were weak and covered ventrally by a homogenous plate (Kehlplatte) not described by REMY and (3) that adults with more than 10 pairs of legs seemed not to occur. Moreover, HÜTHER said that (4) the antennal branch *R* was coalesced with the 5th antennal segment (not so in *Millotauropus*). In an earlier paper I have shown (SCHELLER 1982) that there seem to be no notable differences as to the two first characters. The study of the material reported here agrees in these respects too and has shown also that there are adult specimens with 11 pair of legs in HÜTHER's species (one each on segments 1-11, segment 12 apodous) and that the antennal branch *R* is attached to the 5th antennal segment in the same way as in *Millotauropus*. The genus *Rosettauropus* seems not to be distinctive and justifiable and is here enclosed into *Millotauropus*.

The dignostic characters of the antennae and legs are difficult to handle. So, as an aid for identification and to facilitate description of new species, it is here proposed a formula of the antennal chaetotaxy and a synoptical table of the leg chaetotaxy is given.

Antennae. - The number, shape and arrangement of the setae seem to be of taxonomical value. The following formula shows the chaetotaxy and branching, segments 1-6 (Fig. 2): **a+b/a/a/a+p/a+R/R'+p+p'+p''+f** (a = number of setae of the primary whorl; b = number of setae of the secondary whorl; **p** = a modified interior seta of the primary whorl on segments 4 and 6; **R** = tergal branch with its flagellum **F** on segment 5; **R'** distal branch with its flagellum **F'** on segment 6; **f** = forked organ on segment 6).

Legs. - In Table 1 the complement of setae is shown in *Millotauropus acostae* n.sp. The table may be transformed into the formulas used in the description of that species.

Table 1: The leg chaetotaxy in adult *Millotauropus acostae* n.sp.
F = large folioform seta. Figure = number of other setae, also showing their position, most distal ones to the right; 0 = no setae.

Leg	1	2-9	10	11 Alt. 1	11 Alt. 2
Podomere					
Coxa	F + 0	F + 0	F + 0	F + 0	F + 0
Trochanter	F + 2	F + 2	F + 2	F + 0	F + 2
Femur	0 + 3	0 + 2/3	0 + 2/3	0	0 + 3
Tibia	1 + 3	0/1 + 3	1 + 3	1	1 + 3
Tarsus/basitarsus	1 + 1	0/1 + 3	0 + 1	1 + 1 + 1	0 + 1
Telotarsus		1 + 1	1 + 1		1 + 1

1. *Millotauropus temporalis* (HÜTHER, 1968) n. comb.

Material. - Manaus, campinarana, 3 ad. 11 (1 ♂, 20), 3 subad. 10 (♀), 2 subad. 9 (♀), 1 juv. 8, 29.III.1988; loc. K14CPA, K30CPA, K32CPA; ibidem, 7 ad. 11 (2 ♂, 3 ♀, 2 sex ?), 4 subad. 10 (1 ♂, 3 ♀), 1 juv. 8, 1juv. 6, 17.VIII.1988, loc. K14-16CPA, K18CPA, K22CPA, K26CPA, K29ACPA. 26 specimens.

Manaus, campina, 20 ad. 11 (10 ♂, 10 ♀), 18 subad. 10 (8 ♂, 10 ♀), 7 subad. 9 (4 ♂, 3 ♀), 12 juv. 8, 9 juv. 6, 29.II.1988, loc. K10CPA, K14-15CPA, K22-24CPA, K26-28CPA, K30-32CPA. 66 specimens. - In all 92 specimens.

The species has previously been collected (HÜTHER 1968, 1985) both in northeast Brazil (Serra do Navio, Amapá) and in central Amazonas (at Manaus).

2. *Millotauropus acostae* n.sp. (Figs. 2-12, Table 1)

Type locality. - Brazil, Manaus, 45 km N of Manaus, campinarana.

Type material. - Holotype: ad. 11* (♀), locality as above, 29.III.1988, loc. K18CPA.

Paratypes: Same data as holotype, 1 ad. 11 (♀); ibidem, 1 ad. 11 (♀), loc. K25CPA; ibidem, 2 ad. 11 (♀), 1 subad. 10 (♀), 17.VIII.1988, K15CPA and 3 ad. 11 (2 ♂), 1 sex ?), 1 subad. 9 (♂), 1 juv. 8, 17.VIII.1988, K27CPA. 10 specimens.

Other material. - Ibidem, 1 subad. 9 (♀), K32CPA and 1 ad. 11 (♀), K33CPA, 29.III.1988; ibidem, 2 ad. 11 ♂, ♀), K16CPA and 1 ad. 11 (♀), 1 subad. 9 (♀), loc. K17CPA and 1 subad. 9 (♀), loc. K26CPA and 1 ad. 11 (♀), loc. K28CPA, 17.VIII.1988. 8 specimens. - In all 19 specimens.

Description

Length. - (0.98-)1.01(-1.32)** mm.

Head. - Head in tergal view triangular. Setae with pubescence of oblique straight hairs. Submedian setae of anterior half of the head sublanceolate-lanceolate, anterolateral setae subcylindrical blunt; they are lanceolate on posterolateral and lateral part of head; behind temporal organs on posterolateral side of head some very short 3-spined setae. Longest setae near antennae, about 3 times longer than most anterior setae

of tergal side. Temporal organs circular, as wide as greatest diameter of 1st antennal segment and 1/4 of their greatest distance apart; lateral margin turned up, having no contact with head cuticle; 3 small pores at the sternal margin of the depression below the temporal organ.

Antennae. - Chaetotaxy of segments 1-6: 6(-7)+(2-)3/7(-8)/7(-8)/7+**p**/6+**R**/**p**+**p'**+**p''**+**R'**+**f**. Distal part of flagella tapering, blunt and with small incision below apex; their relative lengths (base segments included): **F** = 100, **F'** = 250. Setae on segment 1 short, lanceolate, with short oblique pubescence; on segment 2 sublanceolate striate; on segments 3 and 4 2-3 times longer than on segment 1, subcylindrical, striate-annulate, tapering; on segment 5 also pointed. The **R** fusiform, 1.8(-1.9) times as long as its greatest diameter, its flagellum **F** 2.0(-2.1) times as long as **R**. Distal branch **R'** about as wide as long and with wide base. Relative lengths of setae of segment 6 (**F** = 100): **p** = 88(-98), **p'** = (142-)173(-198), **p''** = (41-)46(-52). Forked organ **f** as long as basal segment of **F'**; it has 3 pubescent distal branches, (1-)2 of which are furcate. The whole antenna distinctly pubescent.

Trunk. - All tergites with many very short, clavate, obliquely pubescent setae. They are dispersed irregularly on tergite I, in 2 transversal rows on II, in 3 indistinct rows on III, on the following tergites arranged irregularly; number of setae (paratypes only): I 50-53, II 23-24, III 56-58, IV 60, V-VII ?, VIII ≈84, IX 66-68, X 42-48, XI 32-36, XII 16-17. Cuticle of tergites with short erect pubescence.

Trichobothria on tergites II, V, VII, IX and XI. Their relative lengths: $\mathbf{T}_1$ = (67-)70(-90), $\mathbf{T}_2$ = (134-)140(-145), $\mathbf{T}_3$ = (131-)137(-162), $\mathbf{T}_4$ = (144-)152(-191), $\mathbf{T}_5$ = 220(-246). The $\mathbf{T}_1$-$\mathbf{T}_4$ subsimilar, axes very thin, pubescence hairs straight, simple, on proximal 1/3 oblique, increasing in length outwards, on distal half long, erect, whorled; $\mathbf{T}_5$ with thicker axes and shorter oblique pubescence.

Penes (paratypes only) protrude from proportionately high base segments; they are conical, rounded distally, 1.9(-2.0) times as long as their greatest diameter; seta long, 0.6 of the length of organ; cuticle distinctly pubescent.

Legs (Table 1). - Leg 11 5- or 6-segmented, in the latter case the tarsus is divided into basitarsus and telotarsus. Leg segmentation and chaetotaxy (explanation in Table 1), leg 1: F+0/F+2/0+3/1+3/1+1; legs 2-9: F+0/F+2/0+2 or 0+3/0+3 or 1+3/0+3 or 1+3/1+1; leg 10: F+0/F+2/0+2 or 0+3/1+3/0+1/1+1; leg 11, alt. 1: F+0/F+0/0/1/1+1+1/; alt. 2: F+0/F+2/0+3/1+3/0+1/1+1. Folioform setae with broad base, other setae tapering pointed; longest seta on tergal side of the tarsus of leg 11 (0.2-)0.3 of the length of tarsus. Cuticle of legs with distinct pubescence.

Pygidium. Tergum. - Posterior margin evenly rounded. There are 6 setae in a transversal row anterior of setae **st**, $\mathbf{a}_1$, $\mathbf{a}_2$ and $\mathbf{a}_3$. Relative lengths of the latter $\mathbf{a}_1$ = **st** = 10, $\mathbf{a}_2$ = $\mathbf{a}_3$ = 16. They are all short, **st** and $\mathbf{a}_1$ conical, pointed, with a few oblique pubescence hairs; other setae bladder-shaped, 1.8-2.0 times as long as their greatest diameter, with distinct oblique pubescence. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ 13 times longer than $\mathbf{a}_1$; distance $\mathbf{a}_1$-$\mathbf{a}_2$ about twice longer than distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** 5 times longer than **st** and 0.4 of distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle with distinct pubescence.

Sternum. - Posterior margin between $\mathbf{b}_1$ straight (or with shallow rounded indentation), posterolateral corners rounded. Relative lengths of setae ($\mathbf{a}_1$ = 10): $\mathbf{b}_1$ = (64-)67(-71), $\mathbf{b}_2$ = $\mathbf{b}_2$' = 17. They are straight, diverging, with distinct oblique pubescence; $\mathbf{b}_1$ fusiform, with greatest diameter in proximal 1/3, blunt; $\mathbf{b}_2$ and $\mathbf{b}_2$' lanceolate, pointed. The $\mathbf{b}_1$ 0.3(-0.4) of their distance apart, $\mathbf{b}_2$ 0.3 of distance $\mathbf{b}_1$-$\mathbf{b}_2$; $\mathbf{b}_2$' (0.6-)0.7 of distance $\mathbf{b}_2$-$\mathbf{b}_2$'. Anal plate thick, divided longitudinally into two strongly clavate branches by a deep and narrow median cleft; branches in tergal view subtriangular with narrow base, convex lateral margings, rounded posterolateral corners and posteriorly cut squarely; posterior surface indented, each with a short, wide, fungiform appendage protruding from the bottom of the indentation; diameter of appendages 0.6(-0.7) of the greatest diameter of branch; plate with distinct pubescence of straight almost erect hairs which are longest on tergal side and distal part of appendages. Plate with appendages almost as long as $\mathbf{b}_1$.

Subad. 10. - Trunk 12-segmented, distribution of trichobothria as in ad. 11. Some legs lost, leg-segmentation not studied.

Subad. 9. - Penes conical, almost glabrous, seta very short, triangular.

Etymology. - In honour of José de Acosta, a Spanish Jesuit in the 16th century, may be the first who pointed to the faunal similarities between the Old and the New World.

Affinities. - The general shape of the anal plate with very broad clavate branches indicates relationships to *M. frustatorius* REMY (1959a) from the Nimba Mts in Guinea. The short, obliquely pubescent, pointed pygidial setae $\mathbf{a}_1$ suggest the same. However, REMY's description of *M. frustatorius* is so incomplete that these signs are more a guess than a statement. Good distinguishing characters are in the distal part of the anal plate: appendages flat and their insertion area much wider than appendages in *acostae*, appendages subhemispherical and their insertion area about as wide as the appendages in *frustatorius*. The new species may have connections also with *machadoi* and *latiramosus* both described by REMY (1953) from Angola, the former later also reported by him from Uganda (1960). They are similar in the general shape of the anal plate but the new species is easily distinguished from them by the shape of the pygidial setae $\mathbf{a}_2$ and $\mathbf{a}_3$ (bladder-shaped, not lanceolate) and by the shape of the anal plate (branches subtriangular in *acostae* and *machadoi*, subrectangular in *latiramosus*; appendages fungiform and flat distally in *acostae*, subspherical in *machadoi* and hemispherical in *latiramosus*.

Order Tetramerocerata
Family Pauropodiae

Key to Amazonian subfamilies of Pauropodidae

1. Sternal antennal branch **s** with 2 flagella, 2 setae and 2 globuli, the latter joined to a single stalk; mediotergal plate of head present . . . . . Polypauropodinae VERHOEFF
- Sternal antennal branch with 2 flagella, 1 seta and 1 globulus; mediotergal plate of head absent 2
2. Tergites not sclerotized . . . . . Pauropodinae LUBBOCK
- Tergites sclerotized . . . . . Scleropauropodinae BAGNALL

Subfamily Pauropodinae

Key to Amazonian genera of Pauropodinae

1. Preanal segment much narrower than the others, longer than broad . *Hemipauropus* SILVESTRI
- Preanal segment only a little narrower than the others, broader than long 2
2. Adults with first and last pair of legs 5-segmented, those interposed 6-segmented . . . . . *Allopauropus* SILVESTRI
- All legs 5-segmented . . . . . *Cauvetauropus* REMY

Genus *Allopauropus* SILVESTRI, 1902

Key to Amazonian subgenera of *Allopauropus*

1. Pygidial sternum with setae $\mathbf{b}_1$, $\mathbf{b}_2$ and $\mathbf{b}_3$; subad. 8 with setae $\mathbf{d}_1$ and $\mathbf{d}_2$ on pygidial tergum . . . . . *Allopauropus* s.str.
- Pygidial sternum with setae $\mathbf{b}_1$ and $\mathbf{b}_2$ 2
2. Subad. 8 with setae $\mathbf{d}_1$ and $\mathbf{d}_2$ on pygidial tergum; distal corners of **s** equally truncate . . . . . *Perissopauropus* n.subgen.
- Subad. 8 with setae $\mathbf{d}_2$ only on pygidial tergum; anterodistal corner of **s** more truncate than posterodistal one . . . . . *Decapauropus* REMY

Subgenus *Allopauropus* s.str.

3. *Allopauropus (A.) bicorniculus* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 281 specimens.

Manaus, campinarana, 3 ad. 9(♀), 2 subad. 8(♀), 2 juv. 6, 3 juv. 3, loc. K17CPA, 17.VIII.1988. 10 specimens.

Manaus, fucada, 1 ad. 9(♂), 30.III.1990, loc. K27. 1 specimen. - In all 292 specimens.

4. *Allopauropus (A.) dundoensis* REMY, 1955

Material. - Manaus, Rio Tarumã Mirím, capoeira. 271 specimens.

5. *Allopauropus (A.) ovalis* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 280 specimens.

Manaus, campina, 29 ad. 9(13 ♂, 16 ♀), 22 subad. 8(4 ♂, 18 ♀), 9 juv. 6, 5 juv. 5, 3 juv. 3, 29.II.1988. 68 specimens.

Manaus, campinarana, 39 ad. 9(11 ♂, 27 ♀, 1 sex ?), 15 subad. 8(1 ♂, 14 ♀), 17 juv. 6, 11 juv. 5, 8 juv. 3, 29.III.1988; 41 ad. 9(22 ♂, 19 ♀), 21 subad. 8(4 ♂, 17 ♀), 33 juv. 6, 25 juv. 5, 22 juv. 3, 17.VIII.1988. 232 specimens.

Ibidem, fucada, 1 ad. 9(♀). 1 specimen. - In all 581 specimens.

6. *A. (A.) rodriguesi* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 2362 specimens.

7. *A. (A.) uncinatus* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 47 specimens.

Subgenus *Decapauropus* REMY, 1957a

8. *A. (D.) acer* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 3 specimens.

9. *A. (D.) adisi* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 201 specimens.

Manaus, campinarana, 6 ad. 9(3 ♂, 3 ♀), 29.III.1988, loc. K10-13CPA. - In all 207 specimens.

10. *Allopauropus (D.) ieenus* n.sp. (Figs. 13-24)

Type locality. - Brazil, Manaus, Rio Tarumã Mirím, capoeira.

Type material. - Holotype: ad. 9(♂), locality as above, 25.VIII.1982, loc. K31TM.

Paratypes: Same data as holotype, 2 ad. 9(♂, ♀). 2 specimens.

Other material. - Ibidem, 2 ad. 9(♂), 25.VIII.1982, loc. K19TM and K30TM; 13 ad. 9(6 ♂, 7 ♀), 29.IX.1982, loc. K12TM, K15TM, K17TM, K29TM, K31-32TM; 1 ad. 9(♀), 26.X.1982, loc. K10TM; 5 ad. 9(1 ♂, 4 ♀), 23.XI.1982, loc. K18TM, K23TM and K28TM; 4 ad. 9(2 ♂, 2 ♀), 3 juv. 5, 28.II.1982, loc. K20TM; 4 ad. 9(1 ♂, 3 ♀), 28.III.1982, loc. K14-15TM, K19TM, K26TM; 1 ad. 9(♀), 25.IV.1983, loc. K30TM; 8 ad. 9(3 ♂, 5 ♀), 26.V.1983, loc. K22TM, K30-32TM; 6 ad. 9(2 ♂, 4 ♀), 1 juv. 5, 27.VI.1983, loc. K24TM, K28TM; 3 ad. 9(2 ♂, 1 ♀), 1 juv. 5, 26.VII.1983, loc. K10TM; 27 ad. 9(10 ♂, 17 ♀), 5 juv. 6, 7 juv. 6, 24.VIII.1983, loc. K16TM, K18-19TM, K22TM, K31TM, K33TM. 91 specimens. - In all 94 specimens.

Description

Length. - (0.63-)0.80 mm.

Head. - Tergal setae of medium length, subcylindrical, striate, blunt; lateral group setae tapering, pointed, with oblique pubescence. Relative lengths of setae (holotype only), 1st row: $\mathbf{a}_1 = \mathbf{a}_2 = 10$; 2nd row: $\mathbf{a}_1 = 10$, $\mathbf{a}_2 = 16$, $\mathbf{a}_3 = 15$; 3rd row: $\mathbf{a}_1 = 10$, $\mathbf{a}_2 = 11$; 4th row: $\mathbf{a}_1 = 10$, $\mathbf{a}_2 = 17$, $\mathbf{a}_3 = ?$, $\mathbf{a}_4 = 12$; lateral group: $\mathbf{l}_1 = 20$, $\mathbf{l}_2 = 20$, $\mathbf{l}_3 = 25$. The ratio $\mathbf{a}_1/\mathbf{a}_1$-$\mathbf{a}_1$ is in 1st row 1.4, 2nd row 0.6, 3rd row 1.2 and 4th row 0.9. Length of temporal organs (1.9-)2.0 times as long as their shortest distance apart. No pistil; small aperture in temporal organs anterior of $\mathbf{l}_1$. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae, all striate, all but **r** cylindrical, blunt; **r** tapering. Relative lengths of setae: **p** = 100, **p'** = (68-)75, **p''** = 26(-34), **r** = (47-)50. Neither **p'''** nor u. Tergal seta **p** (as long as -)1.1 times as long as tergal branch **t**. The latter somewhat fusiform, 3.0(-3.3) times as long as sternal branch **s** which is 1.9(-2.2) times as long as its greatest diameter; anterodistal corner of **s** truncate. Seta **q** cylindrical, striate, blunt, 0.7 of the length of **s**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F}_1 = 100$, $\mathbf{bs}_1 = 6(-7)$; $\mathbf{F}_2 = 37(-49)$, $\mathbf{bs}_2 = (5-)6$; $\mathbf{F}_3 = 85(-93)$, $\mathbf{bs}_3 = (6-)7$. The $\mathbf{F}_1$ (3.4-)4.1 times as long as **t**, $\mathbf{F}_2$ and $\mathbf{F}_3$ 1.6(-2.0) and (3.5-)3.7(-3.9) times as long as **s** respectively. Distal calyces small, distal part of flagella axes fusiform. Globulus **g** 1.2(-1.3) times as long as wide; ≈9 bracts; width of **g** as long as greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment clavate, striate, with rudimentary secondary branches; lateral ones 1.6(-1.7) times as long as submedian ones; sternite process triangular, glabrous; appendages short, glabrous, with flat caps.

Setae on tergites as setae on tergal side of head, subequal in length on all tergites. There are 4+4 setae on tergite I, 6+6 on II-IV, V not studied and 4+2 on VI. Submedian posterior setae on VI 0.5 of their distance apart and as long as (- somewhat shorter than) the length of pygidial $\mathbf{a}_1$.

Relative lengths of trichobothria: $\mathbf{T}_1 = 100$, $\mathbf{T}_2 = 111(-113)$, $\mathbf{T}_3 = 97(-111)$, $\mathbf{T}_4 = 113(-116$, $\mathbf{T}_5 = (207-)218$. They have thin, simple, straight axes, a little thickened in $\mathbf{T}_3$ only. Pubescence hairs short and straight, strongest on $\mathbf{T}_3$, mainly oblique but erect on distal part of $\mathbf{T}_1$, $\mathbf{T}_2$ and $\mathbf{T}_4$.

Penes subcylindrical, inner side straight, 2.3 times as long as their greatest diameter; seta 0.3 of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 furcate with subcylindrical branches which are densely striate and blunt; those on trochanter somewhat longer than coxal setae and secondary branches there somewhat thinner than primary ones. More anteriorly these setae are simple with rudiments only of secondary branches. Coxal seta on leg 2 in male clavate with rudimentary secondary branch. Tarsus of leg 9 tapering, slender, 4.8(-5.2) times as long as its greatest diameter. Proximal seta tapering, pointed, with short oblique pubescence; its length (0.3-)0.4 of the length of tarsus and 2.6(-3.5) times as long as distal seta; the latter cylindrical, blunt, shortly pubescent. Cuticle of tarsus somewhat granular.

Pygidium. Tergum. - Posterior margin between **st** almost straight. Relative lengths of setae: $\mathbf{a}_1 = 100$, $\mathbf{a}_2 = (115-)136$, $\mathbf{a}_3 = (131-)145$, **st** = (104-)118(-133). The $\mathbf{a}_1$, $\mathbf{a}_2$ and $\mathbf{a}_3$ thin with short oblique pubescence;

$\mathbf{a}_1$ almost straight, cylindrical, $\mathbf{a}_2$ and $\mathbf{a}_3$ somewhat curved inwards, tapering pointed; **st** converging, straight, broadly lanceolate similar to a knife-blade, with very short pubescence. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ (about as long as -)1.2 times as long as $\mathbf{a}_1$; distance $\mathbf{a}_1$-$\mathbf{a}_2$ (1.1-)1.2 times as long as distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** (1.3-)1.5 times as long as **st** and 1.4(-1.6) times as long as distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b}_1$ with a broad shallow indentation. Relative lengths of setae ($\mathbf{a}_1$ = 100): $\mathbf{b}_1$ = (425-)509, $\mathbf{b}_2$ = (100-)118. The $\mathbf{b}_1$ subcylindrical, striate, blunt; $\mathbf{b}_2$ as $\mathbf{a}_2$ and $\mathbf{a}_3$ of pygidial tergum. The $\mathbf{b}_1$ (1.7-)2.0 times as long as their distance apart; $\mathbf{b}_2$ 0.9(-1.1) times as long as distance $\mathbf{b}_1$-$\mathbf{b}_2$. Anal plate as broad as long, with concave lateral margins and two posterior rounded lobes separated by a broadly V-shaped incision; there are two long posterior cowhorn-shaped appendages projecting obliquely upwards from tergal side, their length (2.1-)2.3 times as long as the length of plate; plate and appendages glabrous.

Etymology. - From *ieen* = capoeira (secondary forest), a word used by the Macú indians from the Rio Uaupés in the upper Rio Negro area.

Affinities. - *A. ieenus* is easily recognized and well delimited by two good characters: firstly, the structure of the anal plate with large obliquely upwards directed cowhorn-shaped appendages, a character not previously met with in the genus; secondly, the knife-blade shape of the styli. Good additional characters are the subcylindrical penes, the clavate setae of the collum segment and the proportionately long setae $\mathbf{b}_1$ of the pygidial sternum. Among the Neotropical species it may be most close to *A. adisi* SCHELLER by similarities in the antennae, temporal organs and trichobothria but also as to the collum segment and the legs. It has some similarities also to the following species, *A. tohoius* n.sp., e.g. in the temporal organs, the collum segment and the legs.

11. *Allopauropus (D.) tohoius* n.sp. (Figs. 25-36)

Type locality. - Brazil, Manaus, Rio Tarumã Mirím, capoeira.

Type material. - Holotype: ad. 9(♂), locality as above, 25.VIII.1982, loc. K14TM.

Paratypes: Same data as holotype, 1 juv. 5; ibidem, 2 ad. 9(♀), 25.VIII.1982, loc. K25TM. 3 specimens.

Other material. - Ibidem, 1 ad. 9(♂), 25.VIII.1982, loc. K32TM; 1 ad. 9(♂), 29.IX.1982, loc. K30TM; 5 ad. 9(1 ♂, 4 ♀), 1 juv. 5, 26.X.1982, loc. K12TM, K17TM; 7 ad. 9(1 ♂, 6 ♀), 26.VII.1983, loc. K18TM, K24TM, K27TM. 15 specimens. - In all 19 specimens.

Description

Length. - (0.58-)0.70(-0.75) mm.

Head. - Median tergal setae of medium length, clavate, striate, some lateral ones distinctly longer, subcylindrical, striate, blunt except $\mathbf{a}_3$ in 2nd row and lateral group setae which are tapering pointed. Relative lengths of setae, 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = (10-)11; 2nd row: $\mathbf{a}_1$ = (10-)13, $\mathbf{a}_2$ = (16-)20, $\mathbf{a}_3$ = 22(-23); 3rd row: $\mathbf{a}_1$ = (12-)16, $\mathbf{a}_2$ = (13-)14; 4th row: $\mathbf{a}_1$ = (13-)14, $\mathbf{a}_2$ ≈19, $\mathbf{a}_3$ = (20-)22, $\mathbf{a}_4$ = 13(-14); lateral group (holotype only): $\mathbf{a}_1$ = 23, $\mathbf{1}_2$ = 22, $\mathbf{1}_3$ = 26. The ratio $\mathbf{a}_1/\mathbf{a}_1$-$\mathbf{a}_1$ is in 1st row 1.1, 2nd row 0.6, 3rd row 2.0 and 4th row 1.3. Length of temporal organs 1.9(-2.0) times as long as their shortest distance apart. No pistil; small aperture in temporal organs anterior of $\mathbf{1}_1$. Head cuticle glabrous.

Antennae. - Segment 4 with 5 setae which are cylindrical, striate, blunt. Relative lengths of setae: **p** = 100, **p'** = 57(-68), **p''** = (40-)48, **p'''** = ? (10-12), **r** = (40-)52. No **u**. Tergal seta **p** 1.2 times as long as tergal branch **t**. The latter fusiform, 2.7(-3.0) times as long as its greatest diameter and as long as sternal branch **s** which is (1.8-)2.0 times as long as its greatest diameter and with its anterodistal corner roundedly truncate. Seta **q** thinner than **p** and **p'**, cylindrical, striate, blunt, 0.6 of the length of **s**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F}_1$ = 100, $\mathbf{bs}_1$ = (4-)6; $\mathbf{F}_2$ = (35-)41, $\mathbf{bs}_2$ = 4; $\mathbf{F}_3$ = (74-)83, $\mathbf{bs}_3$ = (5-)6. The $\mathbf{F}_1$ 4.3(-4.8) times as long as **t**, $\mathbf{F}_2$ and $\mathbf{F}_3$ (1.7-)1.8(-2.0) and 3.6(-3.7) times as long as **s** respectively. Distal calyces small, distal part of flagella axes somewhat fusiform. Globulus **g** longish, (1.3-)1.4 times as long as wide; (12-)≈14 bracts; width of **g** 0.7(-0.8) of the greatest diameter of

t. Antennae glabrous.

Trunk. - Setae of collum segment with rudiments only of the secondary branch; they are subcylindrical, densely striate, submedian ones blunt, sublateral ones somewhat tapering; the latter (1.7-)2.0 times as long as submedian one; sternite process narrow, cleft distally; appendages with broad bases and low caps; bases of appendages and anterior part of process with short dense pubescence.

Setae on tergites as setae on tergal side of head and of about the same length on all tergites. There are 4+4 setae on tergite I, 6+6 on II-IV, 6+4 on V and 4+2 on VI. Submedian posterior setae on VI 0.4(-0.5) of their distance apart and almost as long as pygidial $\mathbf{a}_1$.

Relative lengths of trichobothria: $\mathbf{T}_1$ = 100, $\mathbf{T}_2$ = (124-)131, $\mathbf{T}_3$ = (117-)118(-119), $\mathbf{T}_4$ = (137-)150, $\mathbf{T}_5$ = (219-)241(-242). They have thin, simple, straight axes, a little thickened in $\mathbf{T}_3$ only. Pubescence hairs short and straight, strongest on $\mathbf{T}_3$, mainly oblique but almost erect on distal part of $\mathbf{T}_1$-$\mathbf{T}_4$.

Penes subconical, twice longer than their greatest diameter, glabrous; seta 0.3 of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 subsimilar, furcate, branches cylindrical, blunt, with short dense pubescence. More anteriorly these setae are simple with rudimentary secondary branches, coxal setae somewhat fusiform, those of trochanter cylindrical. Coxal setae on leg 2 in male distinctly fusiform with rudimentary secondary branch, densely striate. Tarsus of leg 9 slender, tapering, (4.6-)5.6(-5.7) times as long as its greatest diameter. Proximal seta tapering, pointed, very shortly pubescent, its length 0.4(-0.5) of the length of tarsus and 2.4(-3.0) times as long as distal seta which is cylindrical, blunt, densely striate. Cuticle of tarsus glabrous.

Pygidium. Tergum. - Posterior margin evenly rounded. Relative lengths of setae: $\mathbf{a}_1$ = 100, $\mathbf{a}_2$ = 95(-102), $\mathbf{a}_3$ = 120(-158), **st** = 130(-141). These setae are thin and subcylindrical; $\mathbf{a}_1$, $\mathbf{a}_2$ and $\mathbf{a}_3$ somewhat curved inwards, tapering, striate, **st** straight, converging, glabrous. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ 1.1(-1.2) times as long as $\mathbf{a}_1$; distance $\mathbf{a}_1$-$\mathbf{a}_2$ as long as distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** 1.5(-1.6) times as long as **st** and 1.7(-2.2) times as long as distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b}_1$ with deep and broad indention. Relative lengths of setae ($\mathbf{a}_1$ = 100): $\mathbf{b}_1$ = (454-)640(-670), $\mathbf{b}_2$ = (105-)108(-155). The $\mathbf{b}_1$ cylindrical, densely, blunt; $\mathbf{b}_2$ tapering, somewhat diverging, striate. The $\mathbf{b}_1$ 2.1(-3.2) times as long as their distance apart; $\mathbf{b}_2$ 0.7(-0.9) of distance $\mathbf{b}_1$-$\mathbf{b}_2$. Anal plate broadest at base, trapezoid, lateral margins very little concave: posterolateral corners with two long tapering diverging appendages the distal part of which is curved somewhat outwards; appendages (2.7-)2.8(-2.9) times as long as plate.

Etymology. - From *tohói* = white, a word used by the Macú indians from the Rio Uaupés in the upper Rio Negro area (body colour).

Affinities. - *A. tohoius* is close to the Nearctic *bohnsacki* REMY (1957a) from Tennessee, South Carolina and West Virginia and the West Palearctic *furcula* SILVESTRI (1902). They have great similarities as to the temporal organs, the legs, the chaetotaxy of the pygidial tergum and the shape of the anal plate. From the former it is distinguished by e.g. the length of the $\mathbf{F}_2$ (half of the length of $\mathbf{F}_3$ in *tohoius*, as long as $\mathbf{F}_3$ in *bohnsacki*), the length of the setae $\mathbf{a}_1$ and $\mathbf{a}_2$ of the pygidial sternum (of the same length, not $\mathbf{a}_2$ distinctly shorter than $\mathbf{a}_1$), the shape and length of the **st** (longer than $\mathbf{a}_1$ and tapering, not shorter than $\mathbf{a}_1$ and cylindrical), the proportion $\mathbf{b}_1/\mathbf{b}_1$-$\mathbf{b}_1$ (2.1-3.2, not 1.4) and the shape of the pasterolateral margin of the anal plate (with incision in lateral margin at base of appendages, no such incision). Good distinguishing characters in relation to *furcula* are e.g. the shape of the $\mathbf{T}_3$ (thin axes in *tohoius*, proximal part clavate in *furcula*), the shape of the **st** (long, thin and tapering, not short and claviform), the proportion $\mathbf{b}_1/\mathbf{b}_1$-$\mathbf{b}_1$ (2.1-3.2, not 1.3) and the shape of the posterolateral margins of the anal plate (with incision at base of appendages, no such incision). *A. tohoius* has connections also in direction *A. ieenus* n.sp. described above e.g. the shape of the temporal organs, the collum segment, the trichobothria, the legs and at least partly the pygidial chaetotaxy. The two species can be distinguished by e.g. the proportionately smaller antennal globulus **g** in the former species, its thin **st** and thin appendages of the anal plate.

12. *Allopauropus (D.) bicornutus* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 1080 specimens.

Manaus, campinarana, 2 ad. 9(♂), 29.III.1988, loc. K11CPA and K18CPA; 2 juv. 5, loc. K10CPA and 1 ad. 9(♀), loc. K11CPA and 2 juv. 5, loc. K27CPA, 17.VIII.1988. 7 specimens.

Manaus, campina, 1 ad. 9(♀), 29.II.1988, K31CPA. 1 specimen. - In all 1088 specimens.

13. *Allopauropus (D.) brachypodus* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 49 specimens.

Manaus, campinarana, 4 ad. 9(♀), 1 subad. 8(♀), 3 juv. 6, 29.III.1988, loc. K31CPA. 8 specimens.

Manaus, campina, 6 ad. 9(3 ♂, 3 ♀), 29.II.1988, loc. K31CPA. 6 specimens. - In all 63 specimens.

14. *Allopauropus (D.) junki* n.sp. (Figs. 37-48)

Type locality. - Brazil, Manaus, Rio Tarumã Mirím, capoeira.

Type material. - Holotype: ad. 9(♀), locality as above, 27.VI.1983, loc. K22TM.

Paratypes: Ibidem, 8 ad. 9(♀), 28.II.1983, loc. K18TM and 1 ad. 9(♀), 27.VI.1983, K30TM. 9 specimens.

Other material. - Ibidem, 7 ad. 9(♀), 2 juv. 6, 23.IX.1982, loc. K15TM, K24TM, K28TM and 4 ad. 9(♀), 2 subad. 8(♀), 1 juv. 6, 23.XI.1982, loc. K22-23TM, K26TM and 4 ad. 9(♀), 1 juv. 6, 28.II.1983, loc. K24TM and 2 ad. 9(♀), 27.VI.1983, loc. K23TM, K27TM. 23 specimens. - In all 33 specimens.

Description

Length. - (0.56-)0.64 mm.

Head. - Setae striate, median and submedian ones somewhat clavate; lateral ones subcylindrical, blunt. Relative lengths of setae, 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = 10(-11); 2nd row: $\mathbf{a}_1$ = (11-)12(-14), $\mathbf{a}_2$ = (19-)20, $\mathbf{a}_3$ = (9-)10(-13); 3rd row: $\mathbf{a}_1$ = 12(-13), $\mathbf{a}_2$ = 15(-20); 4th row: $\mathbf{a}_1$ = 10(-11), $\mathbf{a}_2$ = (16-)17(-22), $\mathbf{a}_3$ = 12(-13), $\mathbf{a}_4$ = 17(-20); lateral group (holotype only): $\mathbf{l}_1$ = 32, $\mathbf{l}_2$ = 20, $\mathbf{l}_3$ = 18. The ratio $\mathbf{a}_1/\mathbf{a}_1$-$\mathbf{a}_1$ is in 1st row (0.8-)0.9, 2nd row (0.4-)0.5, 3rd row 0.8 and 4th row 0.5. Length of temporal organs (1.3-)1.6 times as long as their shortest distance apart. No pistil. Head cuticle glabrous but temporal organs with distinct erect pubescence.

Antennae. - Segment 4 with 4 setae which are cylindrical, striate. Relative lengths of setae: **p** = 100, **p'** = (45-)50, **p''** = 27(-33), **r** = (50-)54(-59). Neither **p'''** nor **u**. Tergal seta **p** 1.4(-1.6) times as long as tergal branch **t**. The latter fusiform, (1.5-)1.6(-1.7) times as long as its greatest diameter and (0.8-)0.9 of the length of sternal branch **s** which is 1.4(-1.6) times as long as its greatest diameter and with its anterodistal corner truncate. Seta **q** cylindrical, striate, blunt, almost as long as (-1.4 times as long as) the length of **s**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F}_1$ = 100, $\mathbf{bs}_1$ = 7(-8); $\mathbf{F}_2$ = (30-)33, $\mathbf{bs}_2$ = 5; $\mathbf{F}_3$ = (85-)95, $\mathbf{bs}_3$ = 7(-8). The $\mathbf{F}_2$ thinner than $\mathbf{F}_2$ and $\mathbf{F}_3$. The $\mathbf{F}_1$ 5.2(-5.6) times as long as **t**, $\mathbf{F}_2$ and $\mathbf{F}_3$ 1.3(-1.6) and (3.8-)4.4(-4.7) times as long as **s** respectively. Distal calyces small, subhemispherical; distal part of flagella axes strongly widened. Globulus **g** proportionately large, as long as (-1.3 times as long as) wide; ≈10 bracts; capsule spherical and short-stalked; width of **g** about as great as diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment simple, annulate, blunt; sublateral ones somewhat clavate, (3.1-)4.0 times as long as submedian setae. Sternite process small, narrow, wedge-shaped; appendages with 3-parted caps; process and appendages glabrous.

Setae on tergites short, subcylindrical, striate, blunt. There are 4+4 setae on tergite I, 6+6 on II-IV, 6+4 on V and 4+2 on VI. Submedian posterior setae on VI (0.4-)0.6 of their distance apart and (0.8-)1.0 of the length of pygidial $\mathbf{a}_1$.

Relative lengths of trichobothria: $\mathbf{T}_1$ = 100, $\mathbf{T}_2$ = 98(-114), $\mathbf{T}_3$ = (93-)95(-105), $\mathbf{T}_4$ = (105-)109(-120), $\mathbf{T}_5$ = (138-)148. They have thin axes, all but $\mathbf{T}_5$ ramose; $\mathbf{T}_1$, $\mathbf{T}_2$ and $\mathbf{T}_4$ polyramose with thin branches in one plane, most proximal branches simple, most of others furcate. The $\mathbf{T}_3$ twice dichotomously branched in distal 1/3; middle branch with ovoid endswelling the length of which is 0.2 of the length of $\mathbf{T}_3$. All trichobothria with simple pubescence hairs, on $\mathbf{T}_1$, $\mathbf{T}_2$ and $\mathbf{T}_4$ short, almost erect, on $\mathbf{T}_3$ and $\mathbf{T}_5$ stronger and oblique.

Legs. - Setae on coxa and trochanter of all legs thin, simple, cylindrical, striate, blunt. Tarsus of leg 9 short, tapering, (2.4-)2.6(-2.7) times as long as its greatest diameter. Proximal seta simple, glabrous; distal seta furcate with equal somewhat curved branches which are cylindrical, annulate, blunt. Proximal seta 0.2 of the length of tarsus and (0.7-)0.8 of the length of distal seta. The latter furcate on all legs. Cuticle of tarsus with faint pubescence. Metatarsus of legs 2-9 very short, annular.

Pygidium. Tergum. - Posterior margin evenly rounded. Relative lengths of setae: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = (6-)7(-8), $\mathbf{a}_3$ = (14-)17, **st** = (8-)10. These setae are cylindrical, striate, blunt, somewhat curved inwards, $\mathbf{a}_3$ diverging. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ 1.2(-1.3) times as long as $\mathbf{a}_1$; distance $\mathbf{a}_1$-$\mathbf{a}_2$ 1.5(-1.7) times as long as distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** about twice longer than **st** and (1.5-)1.7(-1.8) times as long as distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b}_1$ broadly indented but with a median semicircular process. Relative lengths of setae ($\mathbf{a}_1$ = 10): $\mathbf{b}_1$ = 27(-43), $\mathbf{b}_2$ = 15(-18). These setae are cylindrical, striate; $\mathbf{b}_2$ somewhat curved inwards and diverging. The $\mathbf{b}_1$ 1.2(-1.5) times as long as their distance apart; $\mathbf{b}_2$ 0.8(-0.9) of distance $\mathbf{b}_1$-$\mathbf{b}_2$. Anal plate glabrous, narrowest anteriorly, cordiform, with two posterolateral, somewhat clavate, faintly striate appendages; the latter somewhat curved outwards, diverging, 0.6(-0.7) of the length of plate.

Stage subad. 8. - Setae $\mathbf{d}_2$ on pygidial tergum very short, their distance apart ≈17 times longer than setae; their relative length (pygidial $\mathbf{a}_1$ = 10)= 3.

Etymology. - Dedicated to PD Dr. W. Junk, Head of the Tropical Ecology Working Group, Max-Planck Institut für Limnologie, Plön, for valuable support during my studies of Amazonian myriapods.

Affinities. - *A. junki* shows striking resemblance to *dendriformis* HAGINO from Japan (HAGINO 1993) and *bouini* REMY from Angola (REMY 1955; SCHELLER 1983) and the western part of the Nearctic (Canada, Ontario, SCHELLER l.c. and the US, Florida, REMY 1958. These three species are very alike in the following respects: similarly branched trichobothria, tarsi with furcate distal seta and the chaetotaxy of the pygidium and the anal plate are akin. It is distinguished from the former by the antennae (distal part of the $\mathbf{F}_3$ clavate, not cylindrical), the process of the collum segment (digitiform, not with distal incision), the surface structure of the $\mathbf{T}_3$ (branches covered with thin simple pubescence hairs, not thick and partly branched distally) and the shape of the anal plate (with distinct posteromedian incision, not very indistinct; appendages clavate, not cylindrical). The new species differs from *bouini* by the aspect of the trichobothria (lateral branches of the $\mathbf{T}_3$ simple, not secondary branched; distal pubescence on the $\mathbf{T}_5$ simple, not branched) and the anal plate (indented posteriorly, not convex). The species may be related also to the West Palearctic *alsiosus* REMY & BALLAND. The antennae are similar and so are the trichobothria, the tarsi, the anal plate and the chaetotaxy of the pygidial tergum (REMY & BALLAND 1957).

15. *Allopauropus (D.) irmgardae* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 43 specimens.

Manaus, campinarana, 2 ad. 9(1 ♂, 1 ♀), 29.III.1988, loc. K11CPA. 2 specimens. - In all 45 specimens.

16. *Allopauropus (D.) manausensis* SCHELLER, 1994 (Figs. 49-50)

Material. - Manaus, Rio Tarumã Mirím, capoeira. 256 specimens.

Manaus, campinarana, 1 ad. 9(♂), loc. K11CPA and 1 ad 9(sex ?), loc. K15CPA and 2 ad. 9(♀), loc. K18CPA and 1 ad. 9(♂), loc. K27CPA, 29.III.1988; 1 ad. 9(♂), loc. K10CPA and 1 ad. 9(♂), loc. K11CPA and 1 juv. 6, loc. K14CPA and 1 ad. 9(♂), K15CPA and 1 ad. 9(♀), 2 juv. 3, loc. K16CPA and 1 juv. 5, loc. K23CPA and 1 ad. 9(♀), loc. K27CPA, 17.VIII.1988. 14 specimens. - In all 270 specimens.

In the description of the species (SCHELLER 1994) I said that the temporal organs were provided with small posterior pistil. A closer study has shown that it is instead a small aperture only in the cuticle anterior of the setae $\mathbf{1}_1$ (Fig. 49).

The posteriomedian linguiform appendage of the pygidial tergum is well delimited from the body surface (Fig. 50).

17. *Allopauropus (D.) neotropicus* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 21 specimens.

Manaus, campinarana, 1 ad. 9(♂), 17.VIII.1988, loc. K17CPA. 1 specimen. - In all 22 specimens.

18. *Allopauropus (D.) pedicellus* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 37 specimens.

19. *Allopauropus (D.) petiolatus* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 43 specimens.

Manaus, campinarana, 1 ad. 9(♂), 3 juv. 5, loc. K10CPA and 1 ad. 9(♂), loc. K13CPA and 1 ad. 9(♂), 1 juv. 6, loc. K23CPA, 29.III.1988; 1 ad. 9(♂), loc. K16CPA and 1 ad. 9(♀), loc. K17CPA and 1 ad. 9(♂), loc. K30CPA, 17.VIII.1988. 10 specimens.

Manaus, campina, 1 juv. 5, loc. K13CPA and 1 ad. 9(♀), loc. K15CPA and 1 ad. 9(♂), 3 juv. 5, 29.II.1988. 6 specimens. - In all 59 specimens.

20. *Allopauropus (D.) proximus* REMY, 1948a

Material. - Manaus, Rio Tarumã Mirím, capoeira. 295 specimens.

Manaus, campina, 1 ad 9(♀), 29.II.1988, loc. K18CPA. 1 specimen.

Manaus, fucada, 8 ad. 9(♀), 1 subad. 8(♀), 3 juv. 6, loc. K10 and 1 ad. 9(♀), loc. K11 and 3 ad. 9(♀), loc. K14 and 1 ad. 9(♀), loc. K16 and 3 ad. 9(♀), loc. K22 and 1 ad. 9(♀), 1 juv. 6, loc. K26, 30.III.1990. 22 specimens. - In all 318 specimens.

21. *Allopauropus (D.) sinuosus* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 9 specimens.

22. *Allopauropus (D.) tenuilobatus* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 1 specimen.

23. *Allopauropus (D.) tenuis* REMY, 1948a

Material. - Manaus, Rio Tarumã Mirím, capoeira. 260 specimens.

Manaus, campinarana, 2 ad. 9(♀), loc. K11CPA and 1 ad. 9(♀), loc. K12CPA and 3 ad. 9(♀), 1 subad. 8(♀), loc. K13CPA and 1 ad. 9(♀), loc. K14CPA and 1 ad. 9(♀), loc. K27CPA and 1 ad. 9(♀), loc. K32CPA, 29.III.1988; 3 ad. 9(♀), loc. K10CPA and 1 ad. 9(♀), loc. K15CPA and 1 subad. 8(♀), loc. K16CPA and 1 ad. 9(♀), loc. K24CPA and 3 ad. 9(♀), 1 juv. 6, loc. K29CPA and 3 ad. 9(♀), loc. K31CPA, 17.VIII.1988. 23 specimens. - In all 283 specimens.

24. *Allopauropus (D.) anomoios* n.sp. (Figs. 51-62)

Type locality. - Brazil, Manaus, campina.

Type material. - Holotype: ad. 9(♀), locality as above, 29.II.1988, loc. K15CPA.

Paratypes: Ibidem, 3 ad 9(1 ♂, 2 ♀), 1 subad. 8(♀), 3 juv. 5, loc. K16CPA and 3 ad. 9(1 ♂, 2 ♀), 1 subad. 8(♀), loc. K17CPA. 11 specimens.

Other material. - Manaus, ibidem, 2 ad. 9(♂), loc. K10CPA and 18 ad. 9(7 ♂, 11 ♀), 2 subad. 8(♀), 9 juv. 6, 3 juv. 5, loc. K11CPA and 2 ad. 9(♂, ♀), 1 juv. 5, loc. K12CPA and 1 ad. 9(♂), loc. K13CPA and 6 ad. 9(1 ♂, 5 ♀), 2 subad. 8(♀), loc. K15CPA and 2 ad. 9(♀), loc. K18CPA and 2 ad. 9(♂, ♀), 1 subad. 8(♀), K19CPA and 2 ad. 9(♂, ♀), loc. K31CPA, 29.II.1988. 53 specimens.

Manaus, campinarana, 1 subad. 8(♂), 2 juv. 6, loc. K11 and 3 ad. 9(♀), loc. K13CPA and 2 ad. 9(♀), loc. K14CPA and 2 ad. 9(♀), loc. K15CPA and 5 ad. 9(1 ♂, 4 ♀), 1 subad. 8(♂), loc. K17CPA and 4 ad. 9(1 ♂, 3 ♀), loc. K18CPA and 1 ad. 9(♀), loc. K19CPA and 4 ad. 9(1 ♂, 2 ♀), loc. K21CPA and 2 ad. 9(♂, ♀), loc. K23CPA and 1 ad. 9(♀), loc. K25CPA and 34 ad. 9(12 ♂, 21 ♀, 1 sex ?), 2 subad. 8(♂, ♀), 4 juv. 6, 29.III.1988; ibidem, 3 ad. 9(2 ♂, 1 ♀), loc. K10CPA and 1 ad. 9(sex ?), loc. K11CPA and 1 juv. 3, loc. K14CPA and 3 ad. 9(2 ♂, 1 ♀), loc. K15CPA and 2 ad. 9(♂, ♀), loc. K16CPA and 1 ad. 9(♂), loc. K17CPA and 2 ad. 9(♂, ♀), 2 juv. 5, loc. K18CPA and 1 ad. 9(♀), 1 subad. 8(♀), 3 juv. 6, loc. K19CPA and 1 ad. 9(♀), loc. K22CPA and 2 ad. 9(♂, ♀), loc. K23CPA and 3 ad. 9(♀), 1 subad. 8(♂), loc. K25CPA and 18 ad. 9(5 ♂, 13 ♀), 8 subad. 8(3 ♂, 5 ♀), 3 juv. 6, loc. K26CPA and 4 ad. 9(♀), loc. K27CPA and 1 ad. 9(♂), loc. K29CPA and 1 ad. 9(♀), loc. K31CPA, 17.VIII.1988. 104 specimens.

Manaus, Rio Tarumã Mirím, capoeira, 23 ad. 9(5 ♂, 28 ♀), 1 subad. 8(♀), 4 juv. 6, 29.IX.1982, loc. K14, K16-19, K21, K23, K25-27, K32; 6 ad. 9(2 ♂, 4 ♀), 26.X.1982, loc. K17, K21-22, K31; 5 ad. 9(♀), 23.XI.1982, loc. K13, K23, K33; 6 ad. 9(2 ♂, 3 ♀, 1 sex ?), 28.II.1983, loc. K23, K27; 3 ad. 9(1 ♂, 2 ♀), 28.III.1983, loc. K22, K25; 9 ad. 9(♀), 1 juv. 6, 26.V.1983, loc. K10, K13, K15, K17-18, K29, K32; 3 ad. 9(♀), 27.VI.1983, loc. K27, K33; 16 ad. 9(6 ♂, 10 ♀), 2 juv. 6, 26.VII.1983, loc. K11, K14, K18-21, K30, K33; 19 ad. 9(3 ♂, 16 ♀), 1 subad. 8(♂), 24.VIII.1983, loc. K10, K12, K16, K19, K22, K24, K27-28, K33. 109 specimens. - In all 278 specimens.

Description

Length. - (0.53-)0.61(-0.78) mm.

Head. - Tergal setae rather short or of medium length, subcylindrical-cylindrical, striate, blunt. Relative lengths of setae, 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = (9-)13; 2nd row: $\mathbf{a}_1$ = (9-)12(-13), $\mathbf{a}_2$ = (15-)20(-21), $\mathbf{a}_3$ = 10(-14); 3rd row: $\mathbf{a}_1$ = (10-)13(-14), $\mathbf{a}_2$ = (16-)20; 4th row: $\mathbf{a}_1$ = (10-)13(-14), $\mathbf{a}_2$ = (20-)23(-25), $\mathbf{a}_3$ = (22-)33(-35), $\mathbf{a}_4$ = (21-)23(-29); lateral group: $\mathbf{1}_1$ = (18-)23(-25), $\mathbf{1}_2$ = (16-)23(-24), $\mathbf{1}_3$ = (16-)27(-29). The ratio $\mathbf{a}_1/\mathbf{a}_1$-$\mathbf{a}_1$

is in 1st row (0.9-)1.0, 2nd row (0.5-)0.6, 3rd row (0.8-)1.0 and 4th row (0.7-)0.8(-0.9). Length of temporal organs (1.7-)1.8(-2.5) times as long as their shortest distance apart. No pistil; small pore at posterior margin of temporal organ. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae which are cylindrical blunt; **p** annulate, **p'** and **p''** striate, **r** glabrous. Relative lengths of setae: **p** = 100, **p'** = (39-)52, **p''** = (33-)45, **r** = (63-)86. Neither **p'''** nor **u**. Tergal seta **p** 1.6(-2.2) times as long as tergal branch **t**. The latter short, (1.4-)1.6(-1.7) times as long as its greatest diameter and (0.8-)0.9 of the length of sternal branch **s** which is 1.2(-1.5) times as long as its greatest diameter and with its anterodistal corner truncate. Seta **q** somewhat thinner than **p**, cylindrical, striate, blunt, (1.3-)1.4 times as long as **s**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F_1}$ = 100, $\mathbf{bs_1}$ = (8-)10; $\mathbf{F_2}$ = (31-)38, $\mathbf{bs_2}$ = (4-)5; $\mathbf{F_3}$ = (79-)90(-91), $\mathbf{bs_3}$ = (9-)12. The $\mathbf{F_1}$ 4.3(-5.6) times as long as **t**, $\mathbf{F_2}$ and $\mathbf{F_3}$ 1.5(-1.7) and 3.6(-4.1) times as long as **s** respectively. Distal calyces very small, helmet-shaped, distal part of flagella axes somewhat widened. Globulus **g** proportionately large, (0.6-)0.7(-0.8) of the length of **s**, (1.1-)1.2(-1.4) times as long as wide; its width (as long as -) 1.2 times as long as the greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment simple, subcylindrical, densely annulate, blunt; sublateral one (1.8-)2.8(-2.9) times as long as submedian one; sternite process narrow, blunt, with short pubescence anteriorly; appendages with broad bases and low flattened caps.

Setae on tergites cylindrical, striate, blunt, all of about the same length. There are 4+4 setae on tergite I, 6+6 on II-V and 4+2 on VI. Submedian posterior setae on VI 0.5(-0.6) of their distance apart and (0.6-)0.7(-0.8) of the length of pygidial $\mathbf{a_1}$.

Relative lengths of trichobothria: $\mathbf{T_1}$ = 100, $\mathbf{T_2}$ = 102(-109), $\mathbf{T_3}$ = (95-)100(-108), $\mathbf{T_4}$ = (96-)104(-112), $\mathbf{T_5}$ = (138-)145(-162). They have very thin axes, all but $\mathbf{T_5}$ polyramose, primary branches simple or with secondary branches, all in one plane; main axis and branches covered with a distinct pubescence of almost erect simple hairs. The $\mathbf{T_3}$ with distal endswelling (4-)5 times longer than wide. The $\mathbf{T_5}$ with simple straight axes, pubescence of simple straight hairs, mainly oblique but almost erect distally.

Penes short, rounded, about as long as their greatest diameter, glabrous; seta 0.7(-0.8) of the length of organ.

Legs. - Setae on coxa and trochanter thin, simple (the latter with rudimentary secondary branch in two paratype specimens), cylindrical, striate, blunt; seta on trochanter longer than coxal seta. Coxal seta on leg 2 in male not deviating. Tarsus of leg 9 tapering, 2.1(-2.7) times as long as its greatest diameter. Setae subcylindrical blunt; proximal one annulate (0.1-)0.2(-0.3) of the length of tarsus and (0.5-)0.6(-0.7) of the length of distal seta which is striate. On legs 1-8 the distal seta is furcate, branches equal in length, cylindrical, striate, blunt. Cuticle of tarsus glabrous.

Pygidium. Tergum. - Posterior margin between **st** with a low rounded bulge. Relative lengths of setae: $\mathbf{a_1}$ = 100, $\mathbf{a_2}$ = (80-)83(-91), $\mathbf{a_3}$ = 117 (-130), **st** = (82-)92(-99). These setae are cylindrical, blunt; $\mathbf{a_1}$, $\mathbf{a_2}$ and $\mathbf{a_3}$ annulate, somewhat diverging; $\mathbf{a_1}$ straight, $\mathbf{a_2}$ and $\mathbf{a_3}$ somewhat curbed inwards; **st** curved inwards, striate, converging. Distance $\mathbf{a_1}$-$\mathbf{a_1}$ 1.2(-1.3) times as long as $\mathbf{a_1}$; distance $\mathbf{a_1}$-$\mathbf{a_2}$ (3.5-)4.0(-4.1) times as long as distance $\mathbf{a_2}$-$\mathbf{a_3}$; distance **st**-**st** 2.4(-2.5) times as long as **st** and 1.7(-1.8) times as long as distance $\mathbf{a_1}$-$\mathbf{a_1}$. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b_1}$ straight (- somewhat indented). Relative lengths of setae ($\mathbf{a_1}$ = 100): $\mathbf{b_1}$ = (405-)416(-490), $\mathbf{b_2}$ = (122-)125(-158). These setae are cylindrical, striate, blunt; $\mathbf{b_2}$ somewhat curved inwards and diverging. The $\mathbf{b_1}$ (1.3-)1.4(-1.7) times as long as their distance apart; $\mathbf{b_2}$ 0.7(-0.8) of distance $\mathbf{b_1}$-$\mathbf{b_2}$. Anal plate (1.2-)1.3 times as long as broad, narrowest anteriorly, linguiform, lateral margins straight (- somewhat convex), posterolateral corners rounded, posterior margin with a low bulge between two submedian appendages which are 0.6(-0.8) of the length of plate, cylindrical, straight (- somewhat curved inwards), striate, blunt.

Stage subad. 8. - Setae $\mathbf{d_2}$ on pygidial tergum short, their distance apart longer than setae; relative lengths (pygidial $\mathbf{a_1}$ = 10) = 3-4.

Etymology. - From Greek *anomoios* = dissimilar (distal setae of tarsi).

Affinities. - There are a few species within the subgenus having linguiform anal plate with two posterior appendages combined with branched trichobothria and furcate setae on the tarsi. Among them

anomoios seems to be most close to *A. bouini* REMY (1955) from Angola, the USA (Florida) and Canada (Ontario). It is distinguished from that species by different ramification of the $\mathbf{T_3}$ (polyramose in *anomoios*, only 3-4 branches in *bouini*) and the chaetotaxy of the tarsi (furcate setae only on leg 9, not more anteriorly too).

25. *Allopauropus (D.) mirimus* n.sp. (Figs. 63-72)

Type locality. - Brazil, Manaus, campina.

Type material. - Holotype: subad. 8(♀), locality as above, 29.II.1983, loc. K33TM.

Other material. - Manaus, Rio Tarumã Mirím, capoeira, 1 subad. 8(♀), 28.II.1983, loc. K33TM. 1 specimen. - In all 2 specimens.

Description

Length. - 0.51 mm.

Head. - Tergal setae short or of medium length, subcylindrical-cylindrical, annulate, blunt. Relative lengths of setae, 1st row: $\mathbf{a_1}$ = 10, $\mathbf{a_2}$ = 13; 2nd row: $\mathbf{a_1}$ = 17, $\mathbf{a_2}$ = 23, $\mathbf{a_3}$ = 13; 3rd row: no $\mathbf{a_1}$, $\mathbf{a_2}$ = 17; 4th row: $\mathbf{a_1}$ = 10, $\mathbf{a_2}$ = 20, $\mathbf{a_3}$ = 17, $\mathbf{a_4}$ = 25; lateral group: $\mathbf{l_1}$ = $\mathbf{l_2}$ = 22, $\mathbf{l_3}$ = ?. The ratio $\mathbf{a_1}$/$\mathbf{a_1}$-$\mathbf{a_1}$ is in 1st row 1.0, 2nd and 4th rows 0.8. Length of temporal organs 1.4 times as long as their shortest distance apart. No pistil. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae which are subcylindrical, annulate, blunt. Relative lengths of setae: **p** = 100, **p'** = 55, **p''** = 36, **r** = 91. Neither **p'''** nor **u**. Tergal seta **p** 1.8 times as long as tergal branch **t**. The latter short, with narrow base, 1.4 times as long as its greatest diameter and 0.8 of the length of sternal branch **s** which is 1.7 times as long as its greatest diameter and with its anterodistal corner truncate. Seta **q** not studied. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F_1}$ = 100, $\mathbf{bs_1}$ = 4; $\mathbf{F_2}$ = 27, $\mathbf{bs_2}$ = 2; $\mathbf{F_3}$ = 66, $\mathbf{bs_3}$ = 4. The $\mathbf{F_1}$ 6.8 times as long as **t**, $\mathbf{F_2}$ and $\mathbf{F_3}$ 1.5 and 3.6 times as long as **s** respectively. Base segments very short; distal calyces small, flattened; distal part of flagella axes clavate. Globulus **g** proportionately small, 1/4 of the length of **s**, as wide as long, its width 0.3 of the greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment simple, cylindrical, densely annulate, blunt; sublateral one 8 times longer than submedian one; sternite process small and very narrow; appendages small, with small hemispherical caps; process and appendages glabrous.

Setae on tergites short, cylindrical, striate, blunt, somewhat decreasing in length posteriorly. There are 4+4 setae on tergite I, 6+6 on II-IV and 4+2 on VI. Submedian posterior setae on VI 0.6 of their distance apart and 0.6 of the length of pygidial $\mathbf{a_1}$.

Relative lengths of trichobothria: $\mathbf{T_1}$ = 100, $\mathbf{T_2}$ = 105, $\mathbf{T_3}$ = 110, $\mathbf{T_5}$ = 130. They have thin ramose axes, thickest in $\mathbf{T_3}$; the $\mathbf{T_1}$ and $\mathbf{T_2}$ polyramose with all branches in one plane; there are three main branches, one central and two lateral; central one nearly straight with many secondary branches, lateral ones simple, curved inwards around inner branches. The $\mathbf{T_3}$ more simple: three times branched dichotomously with the 4 end-branches reaching about equally far outwards; the two middle branches each with a small spherical swelling apically. The $\mathbf{T_5}$ dichotomously branched in distal 1/3. All trichobothria with distinct pubescence of simple hairs, short and almost erect on $\mathbf{T_1}$-$\mathbf{T_4}$, longer and oblique on $\mathbf{T_5}$.

Legs. - Setae on coxa and trochanter thin, simple, cylindrical, striate, blunt, subequal in length. Tarsus of leg 8 subcylindrical, tapering distally, 2.6 times as long as its greatest diameter; it has the distal seta only which is furcate with equal, cylindrical, striate, blunt branches; seta almost 0.3 of the length of tarsus. Distal setae on legs 1-7 similar, branched. Cuticle of tarsus almost glabrous.

Pygidium. Tergum. - Posterior margin evenly rounded. Relative lengths of setae: $\mathbf{a_1}$ = 10, $\mathbf{a_2}$ = 8, $\mathbf{a_3}$ = 10, **st** = 19. These setae are almost straight; $\mathbf{a_1}$, $\mathbf{a_2}$ and $\mathbf{a_3}$ cylindrical, striate, blunt, somewhat diverging; **st** clavate, striate, converging. Distance $\mathbf{a_1}$-$\mathbf{a_1}$ 1.2 times as long as $\mathbf{a_1}$; distance $\mathbf{a_1}$-$\mathbf{a_2}$ twice longer than distance $\mathbf{a_2}$-$\mathbf{a_3}$; distance **st**-**st** 1.6 times as long as **st** and 1.5 times as long as distance $\mathbf{a_1}$-$\mathbf{a_1}$. Setae $\mathbf{d_2}$ very short, relative lengths (pygidial $\mathbf{a_1}$ = 10) = 3; their distance apart about 17 times longer longer than

setae. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b}_1$ with broad V-shaped indentation. Relative lengths of setae ($\mathbf{a}_1$ = 10): $\mathbf{b}_1$ = 35, $\mathbf{b}_2$ = 16. These setae are cylindrical, striate, blunt; $\mathbf{b}_2$ somewhat curved inwards and diverging. The $\mathbf{b}_1$ as long as their distance apart; $\mathbf{b}_2$ 1.2 times as long as distance $\mathbf{b}_1$-$\mathbf{b}_2$. Anal plate 1.6 times as long as broad, narrowest anteriorly, linguiform, somewhat convex laterally, posterolateral corners rounded, posterior margin with a median shallow indention between two submedian clavate striate appendages which are 0.3 of the length of plate. Cuticle glabrous.

Etymology. - From *mirim* = small in the introduced general indian language, lingua geral (body size, antennal globulus, length of trichobothria).

Affinities. - *A. mirimus* has significant features in common with *barbarus* REMY & MOYNE (1960) from Morocco and from Congo (REMY 1962a) and *polyramatus* SCHELLER (1970) from Sri Lanka: very similar ramification of the trichobothria and also furcate distal setae on the tarsi. In common with the latter it has some antennal characters too: very short basal segments of the flagella, proportionately very small globulus **g** and very long seta **r**. Evidently the two species are very close. *A. mirimus* is distinguished from the two Old World species by details in the ramification of the trichobothria, the chaetotaxy of the tarsi and the anal plate.

26. *Allopauropus (D.) korynetes* n.sp. (Figs. 73-84)

Type locality. - Brazil, Manaus, campina.

Type material. - Holotype: ad. 9(♂), locality as above, 29.II.1988, loc. K24CPA.

Paratype: Ibidem, 1 ad. 9(♂), 29.II.1988, loc. K25CPA.

Other material. - Ibidem, 1 ad. 9(♂), 29.II.1988, loc. K11CPA and 1 subad. 8(♂), 29.II.1988, loc. K12CPA. 2 specimens.

Manaus, Rio Tarumã Mirím, capoeira, 1 ad. 9(♀), 26.V.1983, loc. K17TM. 1 specimen. - In all 5 specimens.

Description

Length. - (0.49-)0.55(-0.58) mm.

Head. - Tergal setae of medium length, only $\mathbf{a}_2$ in 2nd row longer; they are cylindrical, striate, blunt; lateral group setae thin, tapering. Relative lengths of setae, 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = (9-)10; 2nd row: $\mathbf{a}_1$ = (10-)12, $\mathbf{a}_2$ = 18(-20), $\mathbf{a}_3$ = (13-)14; 3rd row: $\mathbf{a}_1$ = (9-)10(-11), $\mathbf{a}_2$ = 12(-13); 4th row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = ?, $\mathbf{a}_3$ = 14(-15), $\mathbf{a}_4$ = 9(-10); lateral group: $\mathbf{l}_1$ = 20(-21), $\mathbf{l}_2$ = 14(-16), $\mathbf{l}_3$ = 16(-19). The ratio $\mathbf{a}_1/\mathbf{a}_1$-$\mathbf{a}_1$ (only holotype) is in 1st row 1.3, 2nd row 1.0, 3rd row 1.1 and 4th row 1.6. Length of temporal organs (1.6-)2.0 times as long as their shortest distance apart. No pistil; small aperture behind temporal organ at the level of $\mathbf{l}_1$. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae; **p**, **p'** and **p''** cylindrical, striate, blunt, **r** tapering, indistinctly striate. Relative lengths of setae: **p** = 100, **p'** = (44-)47(-50), **p''** = 29(-33), **r** = 47(-57). Neither **p'''** nor **u**. Tergal seta **p** 1.7(-1.8) times as long as tergal branch **t**. The latter somewhat fusiform, (1.6-)2.0 times as long as its greatest diameter and (0.8-)0.9 of the length of sternal branch **s** which is (1.4-)1.6(-1.7) times as long as its greatest diameter and with its anterodistal corner truncate. Seta **q** as seta **p** of 4th segment, as long as **s**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F}_1$ = 100, $\mathbf{bs}_1$ = 9; $\mathbf{F}_2$ = 37(-40), $\mathbf{bs}_2$ = 4; $\mathbf{F}_3$ = 87(-93), $\mathbf{bs}_3$ = (9-)11. The $\mathbf{F}_1$ 4.6(-4.9) times as long as **t**, $\mathbf{F}_2$ and $\mathbf{F}_3$ 1.5(-1.7) and (3.5-)3.9(-4.0) times as long as **s** respectively. Distal calyces helmet-shaped, those of $\mathbf{F}_2$ smallest, distal part of flagella axes very little widened. Globulus **g** proportionately large, (1.1-)1.2 times as wide as its greatest diameter, its length 0.5(-0.6) of the length of **s**; 12 bracts, width of **g** (1.1-)1.2 times as long as greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment simple, subcylindrical, annulate, blunt; sublateral one 1.9(-2.1) times as long as submedian one; sternite process very small, blunt anteriorly; appendages subcylindrical, caps small, flattened and on distinct stalks; appendages and process glabrous.

Setae on tergites cylindrical, striate. There are 4+4 setae on tergite I, 6+6 on II-IV, ? on V and 4+2 on VI. Submedian posterior setae on VI 0.6 of their distance apart and (1.1-)1.2 times as long as pygidial $\mathbf{a}_1$.

Relative lengths of trichobothria: $\mathbf{T}_1$ = 100, $\mathbf{T}_2$ = ?(88-91), $\mathbf{T}_3$ = (84-)88, $\mathbf{T}_4$ = 85(-102), $\mathbf{T}_5$ = (135-)139. All have thin axes, those of $\mathbf{T}_3$ thickest and with a subovoid apical swelling covered with very dense short pubescence, swelling 3.3 times as long as wide. Pubescence of trichobothria axes consisting of simple, straight, short, oblique hairs on $\mathbf{T}_5$ and proximal halves of $\mathbf{T}_1$-$\mathbf{T}_4$, similar but longer hairs below the swelling of $\mathbf{T}_3$; distal halves of $\mathbf{T}_1$, $\mathbf{T}_2$ and $\mathbf{T}_4$ with longer hairs.

Penes subconical, 1.4 times as long as greatest diameter, glabrous; seta 0.5 of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 furcate, branches cylindrical, densely annulate, blunt; branches of coxal seta subsimilar, on seta of trochanter the primary branch is twice longer than secondary one. More anteriorly these setae are simple. Coxal seta on leg 2 in male furcate with branches equal in length. Tarsus of leg 9 tapering, 2.6(-2.9) times as long as its greatest diameter; setae subcylindrical, striate, blunt, proximal one 0.2 of the length of tarsus and 0.9 of the length of distal seta. Cuticle of tarsus almost glabrous.

Pygidium. Tergum. - Posterior margin between **st** with low median triangular lobe. Relative lengths of setae: $\mathbf{a}_1$ = 100, $\mathbf{a}_2$ = (81-)83(-100), $\mathbf{a}_3$ = (145-)150(-161), **st** = (64-)67. The first three are cylindrical, indistinctly striate, $\mathbf{a}_1$ straight, $\mathbf{a}_2$ and $\mathbf{a}_3$ curved inwards and converging; **st** clavate, faintly granular, curved inwards and converging. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ 2.3(-2.8) times as long as distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** 2.6 times as long as **st** and 1.4(-1.5) times as long as distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b}_1$ with broad indention. Relative lengths of setae ($\mathbf{a}_1$ = 100): $\mathbf{b}_1$ = (403-)417, $\mathbf{b}_2$ = (121-)133. These setae are subcylindrical, tapering, $\mathbf{b}_1$ densely striate, $\mathbf{b}_2$ more sparsely. The $\mathbf{b}_1$ 1.3 times as long as their distance apart; $\mathbf{b}_2$ 0.7(-0.8) of distance $\mathbf{b}_1$-$\mathbf{b}_2$. Anal plate 1.2 times as long as broad, blabrous, with concave lateral margins and with two posterior rounded lobes separated by a broadly V-shaped incision; there are 4 appendages protruding from posterior sternal margin: 2 upper ones which are long, striate, curved outwards, diverging; and 2 lower ones which are short, glabrous, straight, somewhat diverging, directed obliquely downwards; the former about as long as plate, the latter 0.2 of the length of the former.

Etymology. - From Greek *korynetes* = club-bearer ($\mathbf{T}_3$).

Affinities. - There are some species in the genus with a posteriorly bilobate anal plate with two short sternal and two long posterosternal appendages. Among them *S. korynetes* may be most close to *A. proximus* described by REMY from East Africa (REMY 1948b) but then found to be widely distributed in the tropics. They are very similar as to the antennae, $\mathbf{T}_3$, tarsi, general shape and chaetotaxy of the pygidial tergum and the anal plate. The new species is distinguished from *A. proximus* by the shape of the pubescence of the $\mathbf{T}_1$, $\mathbf{T}_2$ and $\mathbf{T}_4$ (long ramose hairs, not short simple), the shape and placing of the **st** (clavate and 0.4 of their distance apart, not subcylindrical and 0.7 of their distance apart) and the shape of the long appendages of the anal plate (curved outwards and diverging, not straight and directed posteriorly). Another species akin to *A. korynetes* is *A. tonsilis* REMY from Pondichéry (REMY 1961) with similar antennae, tarsi and anal plate. They are distinguished by the shape of the $\mathbf{T}_3$ (with a well delimited apical swelling in *korynetes*, with the $\mathbf{T}_3$ in the shape of a club in *tonsilis*) and the shape of the setae $\mathbf{a}_1$ of the pygidial tergum (subcylindrical in *korynetes*, short and clavate in *tonsilis*).

27. *Allopauropus (D.) pachyflagellus* n.sp. (Figs. 85-95)

Type locality. - Brazil, Manaus, campina.

Type material. - Holotype: ad. 9(♀), locality as above, 29.II.1988, loc. K11CPA.

Paratype: Brazil, Manaus, campinarana 1 ad. 9(♀), 29.III.1988, loc. K24CPA.

Other material. - Ibidem, 4 ad. 9(♂), 17.VIII.1988, loc. K25CPA. 4 specimens. - In all 6 specimens.

Description

Length. - (0.54-)0.57 mm.

Head. - Tergal and lateral setae densely striate, anterior and median ones subcylindrical and blunt, sublateral and lateral ones cylindrical and somewhat tapering; setae short, blunt but $\mathbf{a}_2$ and $\mathbf{a}_3$ of 2nd row, $\mathbf{a}_2$ of 4th row and lateral group of medium length. Relative lengths of setae, 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = (10-)11; 2nd row: $\mathbf{a}_1$ = (13-)14, $\mathbf{a}_2$ = (17-)18(-23), $\mathbf{a}_3$ = 27(-29); 3rd row: $\mathbf{a}_1$ = 14(-15), $\mathbf{a}_2$ = 15(-17); 4th row: $\mathbf{a}_1$ = ?, $\mathbf{a}_2$ = 22, $\mathbf{a}_3$ and $\mathbf{a}_4$ = ?; lateral group (holotype only): $\mathbf{l}_1$ = 24, $\mathbf{l}_2$ = 20, $\mathbf{l}_3$ = ?. The ratio $\mathbf{a}_1/\mathbf{a}_1$-$\mathbf{a}_1$ is in 1st row 1.0(-1.1), 2nd row ≈0.6(-07), 3rd row 1.2(-1.3), 4th row ?. Length of temporal organs (as long as -) 1.2 times as long as their shortest distance apart. No pistil; small aperture in posterior part of temporal organ at the level of $\mathbf{l}_1$. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae which are subcylindrical, blunt, **p** densely annulate, the other indistinctly striate. Relative lengths of setae: **p** = 100, **p'** = (50-)54(-58), **p''** = 43(-46), **r** = (36-)39. The **p'''** rudimentary, no **u**. Tergal seta **p** as long as (-1.1) times as long as tergal branch **t**. The latter fusiform (2.0-)2.1 times as long as its greatest diameter and (1.2-)1.3 times as long as sternal branch **s** which is 1.3(-1.4) times as long as its greatest diameter and with its anterodistal corner truncate. Seta **q** thinner than **p** and **p'**, cylindrical, striate, blunt, 1.2(-1.3) times as long as **s**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F}_1$ = 100, $\mathbf{bs}_1$ = 7; $\mathbf{F}_2$ = 38(-39), $\mathbf{bs}_2$ = 7; $\mathbf{F}_3$ = 87(-90), $\mathbf{bs}_3$ = (7-)8. Flagella proportionately thick, especially distally. The $\mathbf{F}_1$ 3.2(-3.3) times as long as **t**, $\mathbf{F}_2$ and $\mathbf{F}_3$ 1.4(-1.5) and 3.4(-3.5) times as long as **s** respectively. Distal calyces somewhat flattened, distal part of flagella axes strongly fusiform. Globulus **g** proportionately large, 1.3 times as long as wide, about 0.6 of the length of **s**, 12(-13) bracts; width of **g** 0.8(-0.9) of greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment furcate with rudimentary secondary branches, cylindrical, densely striate, blunt; sublateral seta (1.9-)2.0 times as long as submedian seta; sternite process very small and narrow; appendages small with caps about as wide as bases; appendages and process glabrous.

Setae on tergites as on head and of about the same length on all tergites. There are 4+4 setae on tergite I, 6+6 on II-IV, 6+4 on V and 4+2 on VI. Submedian posterior setae on VI 0.5 of their distance apart and 0.8(-0.9) of the length of pygidial $\mathbf{a}_1$.

Relative lengths of trichobothria: $\mathbf{T}_1$ = 100, $\mathbf{T}_2$ = (104-)110, $\mathbf{T}_3$ = (108-)112, $\mathbf{T}_4$ = 112(-124), $\mathbf{T}_5$ = (130-)135(-138). They have simple straight axes; $\mathbf{T}_3$ with distal ovoid endswelling, length 0.1 of the length of trichobothrium; pubescence hairs straight, simple, more or less oblique, shortest most proximally and on distal endswelling of $\mathbf{T}_3$, longest on distal 2/3 of $\mathbf{T}_1$, $\mathbf{T}_2$ and $\mathbf{T}_4$.

Penes with rounded tip, 1.4(-1.5), times as long as their greatest diameter, glabrous; seta 0.7 of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 furcate, branches cylindrical, subequal in length, densely striate, blunt; more anteriorly these setae are simple with rudimentary secondary branches. Coxal seta on leg 2 in male short, with rudimentary secondary branch, annulate, blunt. Tarsus of leg 9 tapering, (2.7-)2.9 times as long as its greatest diameter, very faintly pubescent. Proximal seta cylindrical, striate, blunt, 0.2(-0.3) of the length of tarsus and (1.1-)1.2(-1.3) times as long as distal seta; the latter somewhat claviform, densely striate.

Pygidium. Tergum. - Posterior margin straight. Relative lengths of setae: $\mathbf{a}_1$ = 100, $\mathbf{a}_2$ = (70-)98, $\mathbf{a}_3$ = (82-)99, **st** = 71(-85). These setae are thin, cylindrical, blunt; $\mathbf{a}_1$ straight, $\mathbf{a}_2$ straight and somewhat converging, **st** curved inwards and converging; $\mathbf{a}_1$, $\mathbf{a}_2$ and $\mathbf{a}_3$ indistinctly striate, **st** glabrous. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ 0.8 of $\mathbf{a}_1$; distance $\mathbf{a}_1$-$\mathbf{a}_2$ twice longer than distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** 1.7(-2.0) times as long as **st** and (1.7-)1.8 times as long as distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b}_1$ with shallow indentation. Relative lengths of setae ($\mathbf{a}_1$ = 100): $\mathbf{b}_1$ = (230-)268, $\mathbf{b}_2$ = 80(-98). These setae are cylindrical, striate, blunt. The $\mathbf{b}_1$ 1.1(-1.2) times as long as their distance apart; $\mathbf{b}_2$ 0.8 of distance $\mathbf{b}_1$-$\mathbf{b}_2$. Anal plate (as long as broad -) 1.1 times as long as broad, broadest at base, posterior margin produced into two low rounded lobes separated by a shallow incision; each lobe with a (subcylindrical -) somewhat clavate, striate, blunt appendage. The latter at least as long as plate.

Etymology. - From Greek *pachys* = thick and Latin *flagellum* = whip (antennal flagellae).

Affinities. - *A pachyflagellus* is close to *A. presbyteri* REMY from Algeria (REMY 1947) by similarities in the antennal branches and particularly in the shape of the anal plate. It differs especially by the aspect of the ratio length of **p**/length of **t** (≈1 in *pachyflagellus*, 2 in *presbyteri*), the shape of the axes of the $\mathbf{T}_3$ (thin but with ovoid endswelling in *pachyflagellus*, evenly widening in *presbyteri*, by the length ratio of the pygidial setae $\mathbf{a}_1$, $\mathbf{a}_2$ and **st** (all of about the same length in *pachyflagellus*, $\mathbf{a}_2$ distinctly shorter than $\mathbf{a}_3$ and **st** shorter and more curved in *presbyteri*).

28. *Allopauropus (D.) aius* n.sp. (Figs. 96-108)

Type locality. - Brazil, Manaus, campina.

Type material. - Holotype: ad. 9(♂), locality as above, 29.II.1988, loc. K11CPA.

Paratypes: Ibidem, 29.II.1988, 1 ad. 9(♀), loc. K10CPA and 1 ad. 9(♂), loc. K16CPA, and 1 ad. 9(♂), loc. K17CPA. 3 specimens.

Other material. - Same data as holotype, 1 ad. 9(♀). Manaus, campinarana, 29.III.1988, 1 ad. 9(♀), loc. K23CPA, and 1 subad. 8(♀), loc. K27CPA, and 1 ad. 9(♀), loc. K28CPA. 4 specimens.

Manaus, Rio Tarumã Mirím, capoeira, 1 ad. 9(♂), 23.IX.1982, loc. K29TM and 1 ad. 9(♂), 26.VII.1983, loc. K19TM. 2 specimens. - In all 10 specimens.

Description

Length. - (0.47-)0.48(-0.52) mm.

Head. - Most tergal setae of medium length, cylindrical-subcylindrical, striate, blunt; lateral group setae tapering, striate, pointed. Relative lengths of setae, 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = (10-)11; 2nd row: $\mathbf{a}_1$ = (11-)12(-13), $\mathbf{a}_2$ = (16-)17, $\mathbf{a}_3$ = 18(-20); 3rd row: $\mathbf{a}_1$ = (18-)20, $\mathbf{a}_2$ = 22(-24); 4th row: $\mathbf{a}_1$ = 17(-18), $\mathbf{a}_2$ = (18-)20, $\mathbf{a}_3$ = (26-)27(-29), $\mathbf{a}_4$ = 15(-17); lateral group: $\mathbf{l}_1$ = (26-)27, $\mathbf{l}_2$ = 20(-23), $\mathbf{l}_3$ = 17(-18). The ratio $\mathbf{a}_1/\mathbf{a}_1$-$\mathbf{a}_1$ (holotype only) is in 1st row 1.1, 2nd row 0.8, 3rd row 1.4 and 4th row 1.0. Length of temporal organs (2.6-)2.7 times as long as their shortest distance apart. No pistil. Cuticle almost glabrous.

Antennae. - Segment 4 with 5 setae which are cylindrical, blunt; **p**, **p'**, **p''** and **p'''** striate, **r** glabrous. Relative lengths of setae: **p** = 100, **p'** = 70(-80), **p''** = (50-)52(-53), **p'''** = 21(-32), **r** = 40(-42). No **u**. Tergal seta **p** 1.1(-1.2) times as long as tergal branch **t**. The latter somewhat fusiform (1.6-)1.9 times as long as its greatest diameter and 0.8(-0.9) of the length of sternal branch **s** which is 1.4(-1.5) times as long as its greatest diameter and with its anterodistal corner truncate. Seta **q** as seta **p** of 4th antennal segment, 0.7 of the length of **s**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F}_1$ = 100, $\mathbf{bs}_1$ = 13(-15); $\mathbf{F}_2$ = (44-)47(-50), $\mathbf{bs}_2$ = 9(-10); $\mathbf{F}_3$ = 82 and 88, $\mathbf{bs}_3$ = 15(-17). The $\mathbf{F}_1$ (3.8-)4.0 times as long as **t**, $\mathbf{F}_2$ 1.5 and $\mathbf{F}_3$ 2.6(-2.7) and 2.9 times as long as **s** respectively. Distal calyces small, helmet-shaped; distal part of flagella axes widened. Globulus **g** almost without stalk, ovoid, 1.3(-1.4) times as long as wide; capsules longer than wide; 10(-11) bracts; width of **g** about as wide as greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment simple, cylindrical, striate, blunt; sublateral one 1.7(-1.8) times as long as submedian one; sternite process narrow; appendages with subspherical basis and small stalked subhemispherical caps with distinct collar. Appendages and process glabrous.

Setae on tergites as anterior setae of head and of about the same length on all tergites. There are 4+4 setae on tergite I, 6+6 on II-IV, 6+4 on V and 4+2 on VI. Submedian posterior setae on VI 0.6 of their distance apart and (as long as -)1.1(-1.5) times as long as pygidial $\mathbf{a}_1$.

Relative lengths of trichobothria: $\mathbf{T}_1$ = 100, $\mathbf{T}_2$ = (90-)91(-102), $\mathbf{T}_3$ = (85-)102(-106), $\mathbf{T}_4$ = (91-)105, $\mathbf{T}_5$ = (119-)137(-144). They have thin, simple, straight axes, $\mathbf{T}_3$ somewhat thickened in proximal half and with two subovoid swellings outside, one just outside the middle, the other apical; pubescence short, straight, oblique on proximal 1/3 of $\mathbf{T}_1$-$\mathbf{T}_4$ and on proximal 2/3 of $\mathbf{T}_5$, more distally the hairs are much longer, branched and whorled, longest on $\mathbf{T}_1$, $\mathbf{T}_2$ and $\mathbf{T}_4$.

Penes with rounded tip, 1.3 times as long as their greatest diameter, glabrous; seta 0.5 of the length of organ.

Legs. - Setae on coxa and trochanter of legs 1-9 simple, subcylindrical, striate, blunt; on leg 9 the one on trochanter is (1.7-)1.8(-1.9) times as long as the one on coxa. Coxal setae of leg 2 in male furcate, branches cylindrical, striate, blunt; secondary branch shorter and thinner than primary one. Tarsus of leg 9 tapering, (3.1-)3.5 times as long as its greatest diameter. Proximal seta tapering, with short oblique pubescence hairs; its length 0.4 of the length of tarsus and (2.0-)2.2 times as long as distal seta which is subcylindrical, striate, blunt. Cuticle of tarsus with very short pubescence.

Pygidium. Tergum. - Posterior margin between **st** straight. Relative lengths of setae: $\mathbf{a}_1$ = 100, $\mathbf{a}_2$ = 83(-117), $\mathbf{a}_3$ = 106(-130), **st** = 83(-126). These setae are faintly striate, **st** only distally; $\mathbf{a}_1$, $\mathbf{a}_2$ and $\mathbf{a}_3$ cylindrical, somewhat diverging; $\mathbf{a}_1$ curved outwards, $\mathbf{a}_2$ and $\mathbf{a}_3$ curved inwards; **st** straight, tapering, converging. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ about as long as $\mathbf{a}_1$; distance $\mathbf{a}_1$-$\mathbf{a}_2$ (1.2-)1.3 times as long as distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** (1.8-)2.1 times as long as **st** and 1.8(-1.9) times as long as distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b}_1$ straight. Relative lengths of setae ($\mathbf{a}_1$ = 100): $\mathbf{b}_1$ = (406-)462(-491), $\mathbf{b}_2$ = 106(-108). These setae are thin, tapering, in distal part faintly striate. The $\mathbf{b}_1$ (1.4-)1.5 times as long as their distance apart; $\mathbf{b}_2$ 0.7 of distance $\mathbf{b}_1$-$\mathbf{b}_2$. Anal plate glabrous, subrectangular, broadest anteriorly and with concave lateral margins and two rounded posterior lobes separated by a V-shaped incision; there are two straight, cylindrical, blunt, diverging appendages protruding backwards from sternal side of distal lobes; appendages about as long as plate.

Stage subad. 8. - Could not find the setae $\mathbf{d}_2$ of pygidial tergum.

Etymology. - From *ái* = forest, a word used by the Macú indians from the Rio Uaupés in the upper Rio Negro area.

Affinities. - The anal plate is alike the one in *A. presbyteri* REMY from Algeria and Morocco (REMY 1947) but otherwise the two species are not very similar. The new species is well delimited by the combination of some good characters: the ovoid sessile antennal globulus, the stalked caps of the appendages of the collum segment, the $\mathbf{T}_3$ with two swellings and long branched pubescence hairs and the long straight appendages of the anal plate.

29. *Allopauropus (D.) hylaios* n.sp. (Figs. 109-119)

Type locality. - Brazil, Manaus, campinarana.

Type material. - Holotype: ad. 9(♀), locality as above, 17.VIII.1988, loc. K10CPA.

Paratypes: Manaus, campina, 1 subad. 8(♀), 29.II.1988, loc. K11CPA. 1 specimen.

Other material. - Manaus, Rio Tarumã Mirím, capoeira, 1 ad. 9(♀), 26.V.1983, loc. K17TM. 1 specimen. - In all 3 specimens.

Description

Length. - 0.52 mm.

Head. - Tergal setae short, subcylindrical, annulate, blunt; lateral setae of medium length, thin. Relative lengths of setae, 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = 11; 2nd row: $\mathbf{a}_1$ = 11, $\mathbf{a}_2$ = 16, $\mathbf{a}_3$ = 9; 3rd row: $\mathbf{a}_1$ = 11, $\mathbf{a}_2$ = 17; 4th row: $\mathbf{a}_1$ = 11, $\mathbf{a}_2$ = 17, $\mathbf{a}_3$ = 18, $\mathbf{a}_4$ = 20; lateral group: $\mathbf{l}_1$ = 34, $\mathbf{l}_2$ = 26, $\mathbf{l}_3$ = 23. The ratio $\mathbf{a}_1/\mathbf{a}_1$-$\mathbf{a}_1$ is in 1st row 0.8, 2nd row and 4th rows 0.7, 3rd row 0.6. Length of temporal organs 1.5 times as long as their shortest distance apart. No pistil; small aperture at posterior margin of temporal organ anterior of $\mathbf{l}_1$. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae: **p** subcylindrical, annulate, **p'**, **p''** and **r** cylindrical, striate. Relative lengths of setae: **p** = 100, **p'** = 46(-48), **p''** = 37(-40), **r** = 45(-48). Neither **p'''** nor **u**. Tergal seta **p** 1.6 times as long as tergal branch **t**. The latter fusiform, 1.7 times as long as its greatest diameter and as long as sternal branch **s** which is 1.2 times as long as its greatest diameter and with its anterodistal corner truncate. Seta **q** somewhat thinner than **p**, cylindrical, annulate, blunt, 1.3 times as long as **s**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F}_1$ = 100, $\mathbf{bs}_1$ = 10; $\mathbf{F}_2$ = 38, $\mathbf{bs}_2$ = 4; $\mathbf{F}_3$ = 87, $\mathbf{bs}_3$ = 10. The $\mathbf{F}_1$ 5.2 times as long as **t**, $\mathbf{F}_2$ and $\mathbf{F}_3$ 2.0 and 4.5 times as long as **s** respectively. Distal calyces small; distal part of flagella axes strongly fusiform-ovoid. Globulus **g** has thin stalk and is

proportionately large, its length almost 0.9 of the length of **s**; it is 1.2 times as long as wide and has 11 bracts; capsule large with flat bottom; width of **g** 1.2 times as long as greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment simple, cylindrical, annulate, blunt; sublateral one 2.2 times as long as submedian one; sternite process small with short base and a shallow anterior incision; appendages subcylindrical with low flat caps; appendages and process glabrous.

Setae on tergites as on tergal side of head, somewhat increasing in length posteriorly. There are 4+4 setae on tergite I, 6+6 on II-V and 4+2 on VI. Submedian posterior setae on VI 0.3 of their distance apart and 0.5 of the length of pygidial $\mathbf{a}_1$.

Relative lengths of trichobothria: $\mathbf{T}_1$ = 100, $\mathbf{T}_2$ = 98, $\mathbf{T}_3$ = 110, $\mathbf{T}_4$ = ?, $\mathbf{T}_5$ = 129. They have thin, simple, straight axes. Pubescence hair increasing in length outwards, they are short, simple, oblique on proximal 1/3/ of $\mathbf{T}_1$-$\mathbf{T}_3$ and proximal 3/4 of $\mathbf{T}_5$; further outwards the hairs are long, branched, whorled, longest on distal 1/3 of $\mathbf{T}_3$.

Legs. - Setae on legs 1-8 and coxal seta on leg 9 simple, subcylindrical, striate, blunt, seta on trochanter of leg 9 furcate, secondary branch thin, 0.5 of the length of primary branch. Tarsus of leg 9 short, strongly tapering, 3.2 times as long as its greatest diameter. Proximal seta very thin, striate, its length 0.2 of the length of tarsus and 0.7 of the length of distal seta which is cylindrical, striate, blunt. Cuticle of tarsus glabrous.

Pygidium. Tergum. - Posterior margin between **st** with a low rounded bulge. Relative lengths of setae: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = 7, $\mathbf{a}_3$ = 9, **st** = 6. The $\mathbf{a}_1$ and $\mathbf{a}_2$ annulate, blunt, the former straight and somewhat diverging, the latter somewhat curved inwards and a little converging; $\mathbf{a}_3$ and **st** striate, the former somewhat curved inwards, tapering distally and diverging, the latter blunt, curved inwards and converging. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ 1.3 times as long as $\mathbf{a}_1$; distance $\mathbf{a}_1$-$\mathbf{a}_2$ 3.3 times as long as distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** 3.1 times as long as **st** and 1.5 times as long as distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b}_1$ shallowly indented but with a broad and low median bulge having an indistinct median indention. Relative lengths of setae ($\mathbf{a}_1$ = 10): $\mathbf{b}_1$ = 36, $\mathbf{b}_2$ = 11. These setae are cylindrical, striate, blunt; the $\mathbf{b}_1$ 1.2 times as long as their distance apart; $\mathbf{b}_2$ 0.8 of distance $\mathbf{b}_1$-$\mathbf{b}_2$. Anal plate 1.2 times as broad as long, narrowest anteriorly, with convex lateral margins and two posterior triangular lobes separated by a broadly V-shaped incision; each lobe with a sternal striate appendage 0.3 of the length of plate, directed downwards and somewhat curved inwards.

Etymology. - From Greek *hylaios* = of the forest.

Affinities. - *A. hylaios* is isolated by a combination of good characters: the short and annulate tergal setae on the head, the narrow process of the collum segment, the large antennal globulus, the branched and whorled pubescence of all trichobothria, the short tarsus with its proximal seta shorter than the distal one and the shape of the anal plate. However, the pygidial chaetotaxy and the shape of the anal plate indicate relationship to *bellingeri* REMY from Jamaica (REMY 1958). The new species is easily distinguished from that species by the shape of the antennal globulus (with distinct stalk, not very short-stalked), by the proportionately shorter tergal antennal branch (1.7 times as long as its greatest diameter, not 2.5) and by the shape of the pubescence of the $\mathbf{T}_3$ (partly long and branched, not very short). There are several separating characters in the pygidial chaetotaxy too. Relationship may be traced also in direction *A. pusillus* REMY from the Ivory Coast (REMY 1948b) e.g. in the pygidial chaetotaxy and the shape of the anal plate and *A. moreauxi* REMY from Guinea (REMY 1959a) e.g. in large antennal globulus and somewhat akin anal plate.

30. *Allopauropus (D.) campinaranicus* n.sp. (Figs. 120-131)

Type locality. - Brazil, Manaus, campinarana.

Type material. - Holotype: ad. 9(♀), locality as above, 29.III.1988, loc. K18CPA.

Paratypes: Ibidem, 1 ad. (♂), loc. K11CPA, and 1 ad. 9(♂), loc. K12CPA, 29.III.1988. 2 specimens.

Other material. - Ibidem, 1 ad. 9(♀), loc. K11CPA, 1 ad. 9(♂), loc. K25CPA, and 1 ad. 9(♀), loc.

K29ACPA, 17.VIII.1988. 3 specimens.

Manaus, Rio Tarumã Mirím, capoeira, 1 ad. 9(♀), 23.XI.1982, loc. K18TM. 1 specimen. - In all 7 specimens.

Description

Length. - (0.86-)1.02 mm.

Head. - Median tergal setae subcylindrical, striate, blunt and of medium lengths, lateral one of 2nd row and lateral group setae similar but longer and thinner. Relative lengths of setae, 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = (8-)9(-10); 2nd row: $\mathbf{a}_1$ = (9-)10, $\mathbf{a}_2$ = 24(-25), $\mathbf{a}_3$ = (19-)21; 3rd row: $\mathbf{a}_1$ = (9-)10, $\mathbf{a}_2$ = 11(-12); 4th row: $\mathbf{a}_1$ = (9-)11, $\mathbf{a}_2$ = 14(-15), $\mathbf{a}_3$ = ?(-14), $\mathbf{a}_4$ = 13; lateral group: $\mathbf{1}_1$ = 25, $\mathbf{1}_2$ = (19-)20, $\mathbf{1}_3$ = ?(20). The ratio $\mathbf{a}_1/\mathbf{a}_1$-$\mathbf{a}_1$ is in 1st row 1.0(-1.1), 2nd row 0.4, 3rd row 0.9(-1.0) and 4th row 0.9. Length of temporal organs 0.9 of their shortest distance apart. No pistil; small aperture in temporal organs anterior of $\mathbf{1}_1$. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae which are cylindrical, striate, blunt. Relative lengths of setae: **p** = 100, **p'** = 67(-73), **p''** = 30(-37), **r** = 39(-50). The **p'''** a rudimentary knob. No **u**. Tergal seta **p** 0.9(-1.1) times as long as tergal branch **t**. The latter fusiform, (2.5-)3.1 times as long as its greatest diameter and (1.2-)1.4(-1.5) times as long as sternal branch **s** which is (1.4-)1.7 times as long as its greatest diameter and with its anterodistal corner truncate. Seta **q** cylindrical, striate, blunt, (as long as -)1.1 times as long as **s**. Lengths of flagella (base segments included) and base segments: $\mathbf{F}_1$ = ?, $\mathbf{bs}_1$ = 5; $\mathbf{F}_2$ = 35(-40), $\mathbf{bs}_2$ = 4.5; $\mathbf{F}_3$ = 72(-74), $\mathbf{bs}_3$ = 5 µm. The $\mathbf{F}_2$ and $\mathbf{F}_3$ 1.7(-1.9) and 3.4(-3.7) times as long as **s** respectively. Distal calyces of $\mathbf{F}_2$ and $\mathbf{F}_3$ somewhat flattened, distal part of flagella axes fusiform. Globulus **g** small, (as long as -)1.1 times as long as wide; 12(-13) bracts; width of **g** 0.7(-0.9) of greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment proportionately long, furcate, annulate-striate, blunt; secondary branch rudimentary, thin, cylindrical; submedian setae cylindrical, thin, glabrous; sublateral setae 1.8(-2.1) times as long as submedian ones. Sternite process narrow, with small anterior incision; appendages with broad bases and rounded caps with distinct collar; appendage bases and anterior part of sternite process with distinct erect pubescence, caps glabrous.

Setae on anterior tergites as on median part of head but on most posterior tergites pointed. There are 4+4 setae on tergiteI, 6+6 on II-IV and 6+4 on V, 4+2 on VI. Submedian posterior setae on VI (0.5-)-0.6 of their distance apart and 0.7 of the length of pygidial $\mathbf{a}_1$.

Relative lengths of trichobothria: $\mathbf{T}_1$ = 100, $\mathbf{T}_2$ = (116-)117, $\mathbf{T}_3$ = (101-)105(-106), $\mathbf{T}_4$ = ? (110-113), $\mathbf{T}_5$ = 189(-203). They have thin, simple, straight axes, $\mathbf{T}_3$ thickest; pubescence hairs short and straight, mainly oblique but almost erect on distal parts.

Penes short, glabrous, strongly tapering in distal part, 1.4 times as long as its greatest width, distal seta 0.7 of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 furcate, branches subsimilar, cylindrical, striate, blunt. More anteriorly these setae are simple with rudimentary secondary branches. Coxal seta on leg 2 in male furcate, primary branch clavate with dense short pubescence in whorls, secondary branch rudimentary, thin, glabrous. Tarsus of leg 9 tapering, (4.3-)4.4 times as long as its greatest diameter. Proximal seta tapering, pointed, with distinct oblique pubescence; its length 0.3(-0.4) of the length of tarsus and (1.7-)1.8(-1.9) times as long as distal seta; the latter cylindrical, blunt, densely pubescent. Cuticle of tarsus shortly pubescent.

Pygidium. Tergum. - Posterior margin with a linguiform lobe between **st**. Relative lengths of setae: $\mathbf{a}_1$ = 100, $\mathbf{a}_2$ = (79-)82(-97), $\mathbf{a}_3$ = (94-)99, **st** = (45-)47. They have oblique pubescence; the first three somewhat curved inwards, **st** straight, fusiform. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ (1.4-)1.5(-1.9) times as long as distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** (1.6-)1.8(-2.0) times as long as **st** and (1.3-)1.4 times as long as distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b}_1$ with a median triangular lobe. Relative lengths of setae ($\mathbf{a}_1$ = 100): $\mathbf{a}_1$ = (247-)294, $\mathbf{b}_2$ = (85-)88(-91). These setae are subcylindrical, the former striate, the latter with short oblique pubescence. The $\mathbf{b}_1$ 1.2(-1.3) times as long as their distance apart; $\mathbf{b}_2$ 0.9 of (- as long as) distance $\mathbf{b}_1$-$\mathbf{b}_2$. Anal plate (1.2-)1.3 times as long as broad, lateral margins somewhat concave; posterior margin with U-shaped indentation; two straight, fusiform, shortly pubescent appendages protrude backwards from the posterolateral part of the tergal side; length of appendages 0.7 of the length of plate.

Etymology. - From the diminutive of the Portuguese *campo* = field and the tupi language *rana* = pseudo.

Affinities. - *A. campinaranicus* is well delimited by the shape of the anal plate in combination with the thin trichobothria and the short penes with distinct distal tapering. It may be most close to *A. hubbelli* REMY from Michigan (REMY 1956c) and *A. bellingeri* REMY from Jamaica (REMY 1958) by their thin and shortly pubescent trichobothria, similar tarsi, leg chaetotaxy and the general plan of the anal plate. It is distinguished from the former by the shape of the antennal globulus (small subspherical in *campinaranicus*, proportionately much larger and longer in *hubbelli*), the shape of the $\mathbf{T}_3$ (distal part thin in *campinaranicus*, thick and cylindrical in *hubbelli*, the shape of the posterior margin of the pygidial tergum (with linguiform lobe in *campinaranicus*, straight in *hubbelli*) and the number of the appendages of the anal plate (2 in *campinaranicus*, 4 in *hubbelli*). Best distinguishing characters in relation to *A. bellingeri* are the size of the antennal globulus (small in *campinaranicus*, large in *bellingeri*), the shape of the posterior margin of the pygidial tergum (with linguiform lobe in *campinaranicus*, indistinct rounded lobe in *bellingeri*), the shape and direction of the **st** (fusiform and directed backwards in *campinaranicus*, somewhat clavate and both curved inwards and converging in *bellingeri*) and the shape of the anal plate (concave laterally, longer pubescent appendages in *campinaranicus*, convex laterally, short glabrous appendages in *bellingeri*).

31. *Allopauropus (D.) careiroensis* n.sp. (Figs. 132-144)

Type locality. - Manaus, Careiro Island.

Type material. - Holotype: ad. 9(♀), locality as above, 9.III.1987, loc. K23CA.

Paratypes: Ibidem, 1 ad. 9(♀), 24.XI.1986, loc. K11CA; 2 ad. 9(♂, ♀), 1 juv. 5, 9.III.1987, loc. K10CA. 4 specimens.

Other material. - Ibidem, 1 subad. 8(♀), 1 juv. 5, loc. K13CA and 1 subad. 8(♀), loc. K19CA and 1 juv. 5, loc. K28CA and 2 ad. 9(♂, ♀), 1 juv. 5, loc. K31CA, and 1 ad. 9(♀), loc. K32CA, 24.XI.1986; ibidem, 1 stad. ?, loc. K10CA and 1 juv. 5, loc. K19CA and 1 juv. 5, loc. K24CA and 3 ad. 9(♂), 1 subad. 8(♀), 6 juv. 5, loc. K27CA and 1 juv. 5, K28CA and 3 ad. 9(1 ♂, 2 ♀), 2 juv. 5, loc. K30CA and 2 ad. 9(♂, ♀), 1 juv. 5, loc. K31CA and 2 juv. 5, loc. K32CA, 9.III.1987. 32 specimens. - In all 37 specimens.

Description

Length. - (0.84-)0.96(-0.99) mm.

Head. - Tergal setae cylindrical, striate, blunt; submedian ones of medium lengths, sublateral and lateral ones fairly long. Relative lengths of setae (holotype only), 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = ?; 2nd row: $\mathbf{a}_1$ = 7, $\mathbf{a}_2$ = 19, $\mathbf{a}_3$ = 18; 3rd row: $\mathbf{a}_1$ = ?, $\mathbf{a}_2$ = 8, 4th row: $\mathbf{a}_1$ = 9, $\mathbf{a}_2$ = $\mathbf{a}_4$ = 16, $\mathbf{a}_3$ = 18; lateral group: $\mathbf{1}_1$ = 23, $\mathbf{1}_2$ = 12, $\mathbf{1}_3$ = 19. The ratio $\mathbf{a}_1/\mathbf{a}_1$-$\mathbf{a}_1$ is in 1st row 1.1, 2nd row 0.5, 3rd row ? and 4th row 0.7. Length of temporal organs (2.1-)2.3 times as long as their shortest distance apart. No pistil; small aperture in temporal organs at the level of $\mathbf{1}_1$. Head cuticle glabrous.

Antennae. - Segment 4 with 5 setae which are cylindrical, densely annulate, all blunt except **r** which is tapering. Relative lengths of setae (paratypes only): **p** = 100, **p'** = 67-69, **p''** = 28-37, **r** = 34-39, **u** = 3-4. No **p'''**. Tergal seta **p** 1.1-1.2 times as long as tergal branch **t**. The latter 3.2(-3.3) times as long as its greatest diameter and 1.3(-1.5) times as long as sternal branch **s** which is (1.5-)1.8 times as long as its greatest diameter and with its anterodistal corner distinctly truncate. Seta **q** similar to **p'** of 4th segment but densely striate, about as long as **s**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F}_1$ = 100, $\mathbf{bs}_1$ = 4(-5); $\mathbf{F}_2$ = (37-)46(-47), $\mathbf{bs}_2$ = 4; $\mathbf{F}_3$ = (60-)65(-66), $\mathbf{bs}_3$ = 4. The $\mathbf{F}_1$ (3.6-)3.9 times as long as **t**, $\mathbf{F}_2$ and $\mathbf{F}_3$ (2.0-)2.4(-2.5) and (3.2-)3.4(-3.6) times as long as **s** respectively. Distal calyces of different shape, those of $\mathbf{F}_1$ large and helmet-shaped, those of $\mathbf{F}_3$ large too but flattened and

oblique and those of F_2 as those of F_3 but smaller; widened distal part of flagella axes long and cylindrical in F_1, strongly fusiform in F_2 and F_3. Globulus **g** as wide as long, 1.1 times as wide as the greatest diameter of **t**; 15(-17) bracts, capsule flattened. Antennae glabrous.

Trunk. - Setae of collum segment simple, subcylindrical, annulate, blunt; sublateral one 2.1(-2.4) times as long as submedian one; sternite process triangular with narrow tip; basal part of appendages subcylindrical, caps 2-parted: process and appendages glabrous.

Setae on tergites cylindrical, on anterior ones densely annulate, on posterior ones faintly pubescent. There are 4+4 setae on tergite I, 6+6 on II-V and 4+2 on VI. Submedian posterior setae on VI 0.5 of their distance apart and 0.6 of the length of pygidial a_1.

Relative lengths of trichobothria: T_1 = 100, T_2 = 109(-111), T_3 = (115-)117(-119), T_4 = ? (128), T_5 = (195-)199(-220). They have simple almost straight axes which are very thin in all but T_3; pubescence hairs simple, short, straight, strongest on T_3, very minute on T_1, T_2 and T_4.

Penes (paratype) glabrous, short, as wide as long, widest in the middle; seta 0.6 of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 furcate, branches subequal in length, somewhat clavate, with dense, short, oblique pubescence in whorls; secondary branch thinner than primary one; seta on trochanter longer than the one on coxa. More anteriorly these setae are simple. Coxal setae in leg 2 in male simple, clavate, annulate, distal cap with dense short pubescence. Tarsus of leg 9 slender, tapering, 4.8(-4.9) times as long as its greatest diameter. Proximal seta tapering, pointed, with very short depressed pubescence; its length 0.3 of the length of tarsus and (1.6-)1.7 times as long as distal seta; the latter cylindrical, blunt, with oblique distinct pubescence. Cuticle of tarsus glabrous.

Pygidium. Tergum. - Posterior margin between a_1 with an obtusely triangular lobe. Relative length of setae: a_1 = 100, a_2 = (66-)71(-79), a_3 = (117-)123(-145), **st** = (58-)59(-61). The first three are cylindrical with short oblique pubescence, somewhat tapering, a_1 almost straight, a_2 and a_3 curved inwards, the former also converging, **st** somewhat clavate with short oblique pubescence, converging. Distance a_1-a_1 (0.7-)0.8(-0.9) of the length of a_1; distance a_1-a_2 (1.7-)1.8(-2.2) times as long as distance a_2-a_3; distance **st**-**st** 1.7(-2.0) times as long as **st** and (1.3-)1.4 times as long as distance a_1-a_1. Cuticle glabrous.

Sternum. - Posterior margin between b_1 with a shallow indention. Relative lengths of setae (a_1 = 100): b_1 = ? (242-255), b_2 = 76(-87). These setae are cylindrical, striate, the former (paratypes) 1.2-1.5 times as long as their distance apart, the latter 0.7(-0.8) of distance b_1-b_2. Anal plate glabrous, (1.2-)1.4 times as long as broad, broadest anteriorly, lateral margins concave, posterior margin with broadly V-shaped incision; there are two cylindrical, blunt, minutely pubescent appendages which protrude backwards from the posterolateral corners.

Etymology. - A latinization of Careiro (Island).

Affinities. - *A. careiroensis* may be close to *A. cognatus* REMY from the US (REMY 1956c) and, but to a much less degree, to *A. baculatus* SCHELLER from Sri Lanka (SCHELLER 1970). The new species and *A. cognatus* are similar as to the antennal branches **s** and **t**, the trichobothria, the tarsi, the anal plate and the pygidial tergum, both the shape and the chaetotaxy. It is distinguished from it by the extent of the pubescence on the trichobothria (short, not distinct and longer), by the length/distance ratio of the submedian posterior setae of tergite VI (0.5-0.6, not 0.8-0.9), by the shape of the penes (subspherical, not conical) and the anal plate (proportionately narrow with long appendages, not proportionately short with short appendages). From the latter species it is distinguished by he shape of the pubescence of the trichobothria (hairs simple, not mostly ramose) and the tarsi of the leg 9 (4.8-4.9 times as long as their greatest diameter, not 2.7-3.2), by the shape of the posterior margin of the pygidial tergum (with bulge, not straight) and the longer setae a_1, a_2 and a_3.

32. *Allopauropus (D.) kordylinos* n.sp. (Figs. 145-157)

Type locality. - Brazil, Manaus, campinarana.

Type material. - Holotype: ad. 9(♀), locality as above, 29.III.1988, loc. K32CPA.

Paratypes: Same data as holotype, 15 ad. 9(7 ♂, 7 ♀, 1 sex ?), 1 subad. 8(♂), 3 juv. 5. 19 specimens.

Other material. - Same data as holotype, 4 ad. 9(1 ♂, 3 ♀); ibidem, 1 ad. 9(♀), 1 subad. 8(♀), 1 juv. 6, loc. K11CPA; 10 ad. 9(3 ♂, 7 ♀), 6 subad. 8(1 ♂, 5 ♀), 2 juv. 6, loc. K15CPA; 9 ad. 9(2 ♂, 5 ♀, 2 sex ?), 15 subad. 8(6 ♂, 9 ♀), 6 juv. 6, loc. K16CPA; 3 ad. 9(2 ♂, 1 ♀), 9 subad. 8(3 ♂, 6 ♀), 2 juv. 6, loc. K17CPA; 2 juv. 6, loc. K18CPA; 1 subad. 8(♀), loc. K23CPA; 2 subad. 8(♀), loc. K27CPA; 1 ad. 9(♀), loc. K28CPA, 29.III.1988; ibidem, 1 ad. 9(♂), loc. K10CPA; 1 ad. 9(♀), 2 juv. 5, loc. K11CPA; 11 ad. 9(4 ♂, 7 ♀), 1 subad. 8(♂), loc. K14CPA; 2 ad. 9(♂, ♀), loc. K15CPA; 9 ad. 9(6 ♂, 3 ♀), 1 subad. 8(♀), 1 juv. 6, 2 juv. 5, loc. K16CPA; 3 ad. 9(2 ♂, 1 ♀), 1 subad. 8(♀), 1 juv. 6, loc. K17CPA; 1 ad. 9(♀), 1 juv. 6, loc. K19CPA; 1 ad. 9(♀), loc. K22CPA; 1 subad. 8(♀), loc. K23CPA; 1 ad. 9(♀), loc. K24CPA; 8 ad. 9(2 ♂, 6 ♀), 3 subad. 8(♀), 3 juv. 6, 2 juv. 5, loc. K26CPA; 5 ad. 9(3 ♂, 2 ♀), 1 subad. 8(♀), 2 juv. 5, loc. K27CPA; 4 ad. 9(1 ♂, 3 ♀), 1 subad. 8(♀), 2 juv. 6, loc. K28CPA; 1 ad. 9(♂), 1 juv. 6, loc. K29ACPA; 1 ad. 9(♀), loc. K30CPA, and 2 ad. 9(♀), loc. K31CPA, 17.VIII.1988. 147 specimens. - In all 167 specimens.

Description

Length. - (0.56-)0.79(-0.82) mm.

Head. - Submedian tergal setae of medium length, some posterolateral and lateral fairly long; they are subcylindrical-cylindrical, annulate, lateral ones pointed. Relative lengths of setae (holotype only), 1st row: a_1 = 10, a_2 = 8; 2nd row: a_1 = 9, a_2 = 10, a_3 = 12; 3rd row: a_1 = 12, a_2 = 16; 4th row: a_1 = 11, a_2 = 18, a_3 = 26, a_4 = 12; lateral group: l_1 = 32, l_2 = 26, l_3 = 18. The ratio a_1/a_1-a_1 is in 1st row 1.3, 2nd row 0.6, 3rd row 0.9 and 4th row 0.7. Length of temporal organs (3.4-)3.5 times as long as their shortest distance apart. No pistil. Head cuticle faintly granular, temporal organs glabrous.

Antennae. - Segment 4 with 4 setae; **p** and **p'** subcylindrical, annulate, tapering most distally; **p''** and **r** cylindrical, the former striate, the lateral thin, indistinctely striate. Relative lengths of setae: **p** = 100, **p'** = (48-)51, **p''** = (42-)50, **r** = (33-)40. The **p'''** a rudimentary knob. No **u**. Tergal seta **p** 1.7(-2.0) times as long as tergal branch **t**. The latter fairly short, (1.3-)1.5 times as long as its greatest diameter and (0.7-)0.8 of the length of sternal branch **s** which is truncate anteriorly and (1.4-)1.5 times as long as its greatest diameter. Seta **q** similar to **p'** of 4th segment, 1.2 times as long as **s**. Relative lengths of flagella (base segments included) and base segments: F_1 = 100, bs_1 = 6; F_2 = (33-)34(-36), bs_2 = 3; F_3 = 70(-82), bs_3 = 6. The F_2 and F_3 thinner than F_1. The latter (6.4-)7.1(-7.3) times as long as **t**, F_2 and F_3 1.7(-1.9) and 3.9(-4.1) times as long as **s** respectively. Distal calyces helmet-shaped; distal part of flagella axes cylindrical. Globulus **g** proportionately wide with flattened asymmetrical capsule, as long as (- 1.1 times as long as) wide; 9(-11) bracts; width of **g** as wide as (- 1.1 times as wide as) the greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment simple, subcylindrical, annulate, blunt; sublateral one (1.5-)2.0 times as long as submedian one; sternite process triangular, narrow, with small anterior incision, lateral margins with short pubescence; appendages short, wide, glabrous, with flattened caps.

Setae on anterior tergites as submedian setae on tergal side of head, on most posterior tergites they are somewhat shorter, tapering, pointed. There are 4+4 setae on tergite I, 6+6 on II-IV, 6+4 on V and 4+2 on VI. Submedian posterior setae on VI 0.3(-0.4) of their distance apart and 1.9(-2.6) times as long as pygidial a_1.

Relative lengths of trichobothria: T_1 = 100, T_2 = ? (103-109), T_3 = 85(-100), T_4 = 77(-106), T_5 = 97(-136). They have simple straight axes, very thin in all except T_3. In the latter the proximal half increasing in thickness outwards, clavate; distal half with very thin axis. Pubescence hairs of two types: short, simple, oblique, increasing in length outwards on proximal 1/3 of T_1, T_2 and T_4, on proximal half of T_3 and on proximal 2/3 of T_5; long ramose, whorled hairs on distal 2/3 of T_1, T_2 and T_4, on distal half of T_3 and on distal 1/3 of T_5, hairs longest on T_1, T_2 and T_4. Cuticle of tergites glabrous.

Penes 1.5 times as long as their greatest diameter, proximal 2/3 cylindrical, distal 1/3 with outer side rounded and inner side with a marked indentation; seta 0.7 of the length of organ.

Legs. - Setae on coxa and trochanter of legs 1-9 simple, cylindrical, annulate, blunt; seta on trochanter somewhat longer than coxal seta; on anterior legs the latter is thicker in distal part than seta on trochanter. Coxal setae in leg 2 in male not deviating. Tarsus of leg 9 straight, tapering, (2.9-)3.2 times as long as its

greatest diameter. Proximal seta tapering, pointed, with distinct oblique pubescence; its length 0.3(-0.4) of the length of tarsus and (1.2-)1.3(-1.4) times as long as distal seta which is furcate with cylindrical, striate, blunt branches; distal seta furcate on legs 1-9. Cuticle of tarsus with short pubescence.

Pygidium. Tergum. - Posterior margin between **st** indented but with a low rounded bulge with a median broadly V-shaped incision between $\mathbf{a}_1$. Relative lengths of setae: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = 22(-24), $\mathbf{a}_3$ = (30-)34, **st** = 17(-20). These setae are striate; $\mathbf{a}_1$ subcylindrical, blunt, curved outwards, diverging; $\mathbf{a}_2$ cylindrical, blunt, curved inwards; $\mathbf{a}_3$ and **st** tapering, pointed, curved inwards, $\mathbf{a}_3$ diverging, **st** somewhat converging. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ 2.1(-2.6) times as long as $\mathbf{a}_1$; distance $\mathbf{a}_1$-$\mathbf{a}_2$ (2.0-)2.5 times as long as distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** 2.1(-2.4)times as long as **st** and 1.8(-2.0) times as long as distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b}_1$ somewhat indented but with a semicircular lobe above the anal plate. Relative lengths of setae ($\mathbf{a}_1$ = 10): $\mathbf{b}_1$ = 87(-105), $\mathbf{b}_2$ = 32(-40). These setae are cylindrical, striate; $\mathbf{b}_2$ tapering, pointed, somewhat curved inwards and diverging. The $\mathbf{b}_1$ (1.1-)1.2 times as long as their distance apart; $\mathbf{b}_2$ about as long as distance $\mathbf{b}_1$-$\mathbf{b}_2$. Anal plate 1.8(-1.9) times as long as broad, broadly lanceolate; two cylindrical, striate, blunt, diverging appendages protrude from distal part of sternal side, their length 0.3(-0.5) of the length of plate; anal plate covered with short but distinct pubescence.

Stage subad. 8. - Setae $\mathbf{d}_2$ on pygidial tergum (paratype) short, their distance apart about 15 times longer than setae; relative length (pygidial $\mathbf{a}_1$ = 10) = 7.

Etymology. - From Greek *kordylinos* = clublike ($\mathbf{T}_3$).

Affinities. - The new species has characters in common with *A. extenuatus* SCHELLER from the Seychelles (SCHELLER 1982) (particularly the trichobothria and, but to a less degree, the antennae). It is distinguished from that species by different chaetotaxy of the tarsi and the pygidium and the shape of the anal plate. *A. kordylinos* is well distinguished in relation to all other species of the genus by the following character combination: the antennal globulus proportionately large and thin-stalked, the flagella axes not widened distally, the process of the collum segment narrowly triangular, the proximal half of the $\mathbf{T}_3$ clavate and long branched pubescence hairs on all trichobothria, the distal seta on the tarsi furcate and the anal plate broadly lanceolate with two posterior, straight, diverging appendages.

33. *Allopauropus (D.) disappendicalis* n.sp. (Figs. 158-169)

Type locality. - Brazil, Manaus, campinarana.

Type material. - Holotype: ad. 9(♂), locality as above, 17.VIII.1988, loc. K23CPA.

Paratype: Same data as holotype, 1 ad. 9(♂), loc. K17CPA. - In all 2 specimens.

Description

Length. - (0.53-)0.70 mm.

Head. - Tergal setae of medium length, most sublateral and lateral ones fairly long. Relative lengths of setae, 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = 11; 2nd row: $\mathbf{a}_1$ = (9)11, $\mathbf{a}_2$ = 16(19), $\mathbf{a}_3$ = 15; 3rd row: $\mathbf{a}_1$ = 11, $\mathbf{a}_2$ = 14(16); 4th row: $\mathbf{a}_1$ = 12, $\mathbf{a}_2$ = 14(16), $\mathbf{a}_3$ = 20(21), $\mathbf{a}_4$ = 12(14); lateral group (holotype only): $\mathbf{l}_1$ = 26, $\mathbf{l}_2$ = 24, $\mathbf{l}_3$ = 21. The ratio $\mathbf{a}_1$/$\mathbf{a}_1$-$\mathbf{a}_1$ is in 1st row (1.2)1.3, 2nd row (0.6)0.8, 3rd row 1.1 and 4th row 1.0. Length of temporal organs 2.4 times as long as their shortest distance apart. No pistil; posterior aperture not studied. Head cuticle glabrous.

Antennae. - Segment 4 with 5 setae which are cylindrical, striate, blunt; **r** thinnest. Relative lengths of setae: **p** = 100, **p'** = (61)65, **p''** = (39)45, **r** = (61-)70, **u** = (4)5. The **p'''** a rudimentary knob only. Tergal seta **p** 1.5(1.9) times as long as tergal branch **t**. The latter short, (1.7)2.0 times as long as its greatest diameter and (as long as -) 1.1 times as long as sternal branch **s** which is (1.3)1.6 times as long as its greatest diameter and with its anterodistal corner truncate. Seta **q** as **p'** and as long as (1.2 times as long as) **s**. Lengths of flagella (base segments included) and base segments ($\mathbf{F}_1$ broken in both specimens); $\mathbf{bs}_1$ = 4; $\mathbf{F}_2$ = 25, $\mathbf{bs}_2$ = 3.5(5.5); $\mathbf{F}_3$ = 43(45), $\mathbf{bs}_3$ = 4.2(4.3) µm. The $\mathbf{F}_2$ and $\mathbf{F}_3$ 2.1 and 3.6(3.7) times as long as **s** respectively. Distal calyces very small, flattened; distal part of flagella axes fusiform. Globulus

g subspherical with short stalk, capsule somewhat flattened; 14 bracts; width of **g** about as long as the greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment subcylindrical, annulate, blunt; sublateral one 2.2(2.5) times as long as submedian one. Neither sternal process, nor appendages.

Setae on tergites as submedian setae of the tergal side of head; setae on both anterior and posterior tergites of the same length. There are 4+4 setae on tergite I, 6+6 on II-IV, V not studied, 4+2 on VI. Submedian posterior setae on VI (0.5)0.6 of their distance apart and 1.1(1.3) times as long as pygidial $\mathbf{a}_1$.

Relative lengths of trichobothria: $\mathbf{T}_1$ = 100, $\mathbf{T}_2$ = 105(110), $\mathbf{T}_3$ = 102, $\mathbf{T}_4$ = (103)119, $\mathbf{T}_5$ = ?(129). They have thin simple somewhat curved axes, those of $\mathbf{T}_3$ thickest and with a distal endswelling which is 2.7 times as long as wide. Pubescence on proximal halves increasing in length outwards, simple, straight, oblique, on distal halves long, hairs at least partly branched at the end, whorled, hairs on the endswelling of the $\mathbf{T}_3$ may all be simple; $\mathbf{T}_4$ and $\mathbf{T}_5$ with shortest pubescence.

Penes short, narrowing in distal 1/3, 1.3 times as long as their greatest diameter, glabrous; seta 0.5 of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 furcate with subsimilar cylindrical, striate, blunt branches. More anteriorly these setae are simple. Coxal seta on leg 2 in male not deviating. Tarsus of leg 9 short, tapering, 2.5(-2.8) times as long as its greatest diameter. Proximal seta tapering, striate, pointed, its length 0.3 of the length of tarsus and (1.2)1.5 times as long as distal seta which is cylindrical, straight, striate, blunt. Cuticle of tarsus very faintly granular.

Pygidium. Tergum. - Posterior margin between $\mathbf{a}_1$ straight. Relative lengths of setae: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = (11)13, $\mathbf{a}_3$ = 13, **st** = 7(8). These setae are cylindrical, all faintly striate, $\mathbf{a}_3$ also with short distal pubescence: $\mathbf{a}_1$ straight, $\mathbf{a}_2$ and **st** somewhat curved inwards, $\mathbf{a}_3$ curved inwards distally, diverging; **st** converging. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ 1.3 times as long as $\mathbf{a}_1$; distance $\mathbf{a}_1$-$\mathbf{a}_2$ 2.2 times as long as distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** 2.0(2.3) times as long as **st** and 1.3 times as long as distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b}_1$ with a shallow indention. Relative lengths of setae ($\mathbf{a}_1$ = 10): $\mathbf{b}_1$ = 37(39), $\mathbf{b}_2$ = (11)12. These setae are cylindrical, striate, blunt. The $\mathbf{b}_1$ 1.1(1.2) times as long as their distance apart: $\mathbf{b}_2$ 0.7(0.8) of distance $\mathbf{b}_1$-$\mathbf{b}_2$. Anal plate linguiform, (1.6)1.7 times as long as broad, broadest anteriorly, posterolateral corners rounded, posterior margin lengthened into a small median triangular process from the base of which two short subovoid appendages are projecting backwards-outwards from sternal side; plate and appendages glabrous.

Etymology. - From Latin *dis* = without and *appendix* = appendage (collum segment).

Affinities. - The species is well defined by the absence of the sternal process and the appendages of the collum segment, a character unknown from other species in the genus. In other respects many characters are widespread (antennae, anal plate, trichobothria) or not distinct enough (chaetotaxy of the head, tergites, legs) to trace relationships.

34. *Allopauropus (D.) dischides* n.sp. (Figs. 170-181)

Type locality. - Brazil, Manaus, Rio Tarumã Mirím, capoeira.

Type material. - Holotype: ad. 9(♂), locality as above, 26.X.1982, loc. K14TM.

Paratypes: Ibidem, 1 ad. 9(♂), 28.III.1983, loc. K15TM and 1 ad. 9(♂), 26.VII.1983, loc. K10TM. 2 specimens.

Other material. - Ibidem, 1 juv. 5, 25.VIII.1982, loc. K12TM; 1 ad. 9(♀), loc. K17TM and 1 ad. 9(♂), loc. K18TM and 1 juv. 5, loc. K19TM, 29.IX.1982; 1 ad. 9(♀), 26.VII.1983, loc. K28TM. 5 specimens. - In all 8 specimens.

Description (only holotype)

Length. - 0.77 mm.

Head. - Most tergal setae of medium length; a few fairly long, subcylindrical-cylindrical, striate, blunt, $\mathbf{a}_3$ in 3rd row and lateral group setae tapering and pointed. Relative lengths of setae, 1st tow: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ =

11; 2nd row: a_1 = 13, a_2 = a_3 = 17; 3rd row: a_1 = a_2 = 9; 4th row: a_1 = a_4 = 9, a_2 = 16, a_3 = 12; lateral group: l_1 = 22, l_2 = 17, l_3 ≈ 19. The ratio a_1/a_1-a_1 is in 1st row 1.2, 2nd row 0.7, 3rd row 1.0 and 4th row 0.7. Length of temporal organs 1.3 times as long as their shortest distance apart. No pistil; small posterior aperture at posterior margin of the temporal organ anterior of l_1. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae; **p**, **p'** and **p''** cylindrical, striate, blunt, **r** tapering, striate, pointed. Relative lengths of setae: **p** = 100, **p'** = 70, **p''** = 31, **r** = 35. The **p'''** rudimentary. No **u**. Tergal seta **p** as long as tergal branch **t**. The latter fusiform, cut obliquely at distal end, 2.9 times as long as its greatest diameter and about as long as sternal branch **s** which is 2.1 times as long as its greatest diameter and with its anterodistal corner truncate. Seta **q** tapering, striate, pointed, 0.6 of the length of **s**. Relative lengths of flagella (base segments included) and base segments: F_1 = 100, bs_1 = 8; F_2 = 53, bs_2 = 8; F_3 = 97, bs_3 = 10. The F_1 3.2 times as long as **t**, F_2 and F_3 1.6 and 2.9 times as long as **s** respectively. Distal calyces of F_2 and F_3 distinctly smaller than those of F_1, distal part of flagella axes distinctly fusiform. Globulus **g** almost spherical with short stalk; 13 bracts; width almost as long as greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment furcate; primary branches cylindrical, annulate-striate, blunt; secondary branches rudimentary; sublateral seta twice longer than submedian one. Sternite process small, narrow anteriorly; appendages with glabrous base and distinctly stalked pubescent caps.

Setae on anterior tergites subcylindrical, striate, blunt, on posterior tergites very densely striate and pointed. There are 3+2 setae on tergite I (one anterior doubled), ?+6 on II, III-IV not studied, 6+6 on V and 4+2 on VI. Submedian posterior setae on VI 0.7 of their distance apart and 1.3 times as long as pygidial a_1.

Relative lengths of trichobothria: T_1 = 100, T_2 = 104, T_3 = 128, T_4 = 134, T_5 = 252. They have simple straight axes, very thin in T_1, T_2, T_4 and distal 1/3 of T_3, thin in T_5 but thickened in proximal 2/3 of T_3; pubescence hairs short, straight and oblique on proximal halves of T_1-T_4, extremely short on T_5; otherwhere the hairs are longer, almost erect and branched distally.

Penes conical, glabrous, 1.7 times as long as their greatest diameter; seta almost 0.5 of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 subsimilar, furcate, branches equal in length, cylindrical, very densely striate, blunt; secondary branch somewhat thinner than primary one. More anteriorly these setae are simple with rudiments only of secondary branches. Coxal seta on leg 2 in male simple, cylindrical, annulate, secondary branch short, thin, glabrous. Tarsus of leg 9 tapering, slender, 5.1 times as long as its greatest diameter. Proximal seta thin, tapering, pointed, almost 0.4 of the length of tarsus and 2.5 times as long as distal seta; the latter cylindrical, striate, blunt. Cuticle of tarsus glabrous.

Pygidium. Tergum. - Posterior margin between **st** straight. Relative lengths of setae: a_1 = 100, a_2 = 109, a_3 = 186, **st** = 89. The first three somewhat curved inwards (except distal part of a_3), very shortly pubescent, a_1 and a_2 tapering, a_3 pointed, **st** straight, somewhat clavate, glabrous, converging. Distance a_1-a_1 1.2 times as long as a_1; distance a_1-a_2 2.4 times as long as distance a_2-a_3; distance **st**-**st** twice longer than **st** and 1.5 times as long as distance a_1-a_1. Cuticle glabrous.

Sternum. - Posterior margin between b_1 somewhat indented. Relative lengths of setae (a_1 = 100): b_1 = 427, b_2 = 98. The b_1 cylindrical, blunt, very densely striate; b_2 tapering, pointed, glabrous, curved somewhat inwards, diverging. The b_1 1.6 times as long as their distance apart; b_2 0.7 of distance b_1-b_2. Anal plate consisting of two straight, completely separated, somewhat converging parts each composed of a proximal glabrous part resembling a knife-blade with the curved edge outwards and a distal straight, tapering, granular appendage protruding backwards; the latter as long as proximal part.

Etymology. - From Greek *dischides* = cloven, divided (anal plate).

Affinities. - The most important diagnostic character in *S. dischides* is the two-parted anal plate. As far as I know no species in *Allopauropus* have developed that character. The anal plate is very often incised or cleft posteriorly in Pauropodinae but seldom deeply. In *Stylopauropoides* and *Scleropauropus* the split may be very deep but the branches are always united together at the base. On the other hand several species in Polypauropodinae, a by other reasons well delimited group, have distinctly two-parted anal plates.

35. *Allopauropus (D.) aduncus* n.sp. (Figs. 182-193)

Type locality. - Brazil, Manaus, campina.

Type material. - Holotype: ad. 9(♂), locality as above, 29.III.1988, loc. K15CPA.

Paratypes: Same data as holotype, 5 ad. 9(3 ♂, 2 ♀), loc. K15CPA and 1 subad. 8(♀), loc. K16CPA. 6 specimens.

Other material. - Manaus, campina, 1 ad. 9(♂), loc. K10CPA and 1 ad. 9(♀), loc. K17CPA, 29.III.1988. 2 specimens. - In all 9 specimens.

Description

Length. - (0.53-)0.58(-0.60) mm.

Head. - Tergal setae of medium length, thin, cylindrical, indistinctly striate, blunt. Relative lengths of setae, 1st row: a_1 = 10, a_2 = 9(-10); 2nd row: a_1 = 10(-12), a_2 = 15(-17), a_3 = 10(-11); 3rd row: a_1 = 9(-10), a_2 = 10(-11); 4th row: a_1 = 11(-12), a_2 = 13(-15), a_3 = 15, a_4 = 14; lateral group setae not studied. The ratio a_1/a_1-a_1 is in 1st row (1.3-)1.6, 2nd row 0.8(-0.9), 3rd row 0.9(-1.0) and 4th row 1.7(-1.8). Length of temporal organs 1.2(-1.4) times as long as their shortest distance apart. No pistil; small aperture at posterior margin of temporal organ. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae which are subcylindrical blunt; **p** and **p'** striate, **p''** and **r** glabrous. Relative lengths of setae: **p** = 100, **p'** = (56-)58(-67), **p''** = 35(-42), **r** = (69-)77(-78). Neither **p'''** nor **u**. Tergal seta **p** 1.4(-1.6) times as long as tergal branch **t**. The latter somewhat clavate, (1.7-)2.0 times as long as its greatest diameter and (0.8-)0.9 of the length of sternal branch **s** which is (1.6-)1.7(-2.1) times as long as its greatest diameter and with its anterodistal corner roundedly truncate. Seta **q** long, thin, subcylindrical, striate, blunt, (1.1-)1.3 times as long as **s**. Relative lengths of flagella (base segments included) and base segments: F_1 = 100, bs_1 = (11-)14; F_2 = (34-)39, bs_2 = (7-)10; F_3 = 85(-92), bs_3 = (9-)12. The F_1 3.7(-4.2) times as long as **t**, F_2 and F_3 1.1(-1.2) and 2.8(-3.0) times as long as **s** respectively. Distal calyces low, distal part of flagella axes only slightly fusiform. Globulus **g** piriform, 1.4(-1.5) times as long as wide; its length 0.6(-0.7) of the length of **s**; width (0.8-)0.9 of the greatest diameter of **t**; 8(-9) bracts. Antennae glabrous.

Trunk. - Setae of collum segment simple, cylindrical, striate, blunt; sublateral one 2.4(-2.5) times as long as submedian one; sternite process with narrow base, blunt anteriorly; appendages and process glabrous.

Setae on tergites cylindrical, striate, blunt. There are 4+4 setae on tergite I, 6+6 on II-IV, 6+? on V and 4+2 on VI. Submedian posterior setae on VI 0.4(-0.5) of their distance apart and (1.2-)1.4(-1.5) times as long as pygidial a_1.

Relative lengths of trichobothria: T_1 = 100, T_2 = 104(-116), T_3 = 98(-125), T_4 = (104-)111, T_5 = (129-)132(-144). They have thin, simple, straight axes, those of T_3 thickest, pubescence hairs oblique on proximal halves, almost erect distally, hairs simple on T_4 and T_5 and on proximal parts of T_1-T_3, distal parts of the latter three have ramose hairs arranged in whorls.

Penes subconical, pointed, glabrous, 1.6 times as long as their greatest diameter; seta ≈ 0.5 of the length of organ.

Legs. - Setae on coxa of leg 9 furcate, branches cylindrical, striate, blunt, secondary branch shorter than primary one. Seta on trochanter of legs 1-9 and on coxa of legs 1-8 simple, cylindrical, striate, blunt. Coxal seta on leg 2 in male not deviating. Tarsus of leg 9 tapering, glabrous, (2.3-)2.5 times as long as its greatest diameter. Setae cylindrical, glabrous, blunt; proximal one somewhat curved, 0.2 of the length of tarsus and 0.8 of the length of distal seta which is straight.

Pygidium. Tergum. - Posterior margin with a semicircular lobe between **st**. Relative lengths of setae: a_1 = 100, a_2 = (77-)102, **st** = 80(-86). No a_3. These setae are glabrous, blunt; a_1 and a_2 subcylindrical, somewhat curved inwards, **st** somewhat clavate and with a knee in the middle of proximal half, diverging and bent inwards. Distance a_1-a_1 1.1(-1.3) times as long as a_1 and about as long as distance a_1-a_2; distance **st**-**st** (1.7-)1.8 times as long as **st** and 1.3 times as long as distance a_1-a_1. Cuticle glabrous.

Sternum. - Posterior margin with indentation below anal plate. Relative lengths of setae (a_1 = 100):

$\mathbf{b_1}$ = (259-)302(-384), $\mathbf{b_2}$ = (112-)143(-154). These setae are cylindrical, striate, blunt; $\mathbf{b_1}$ with short oblique pubescence on distal half, $\mathbf{b_2}$ striate. The $\mathbf{b_1}$ 1.1(-1.2) times as long as their distance apart; $\mathbf{b_2}$ (0.8-)0.9(-1.1) times as long as distance $\mathbf{b_1}$-$\mathbf{b_2}$. Anal plate 1.2 times as long as broad, lateral margins concave; posterior margin with U-shaped indentation; posterolateral corners cut squarely and with 2 subsimilar, somewhat clavate, glabrous processes. Plate glabrous.

Stage subad. 8. - Setae $\mathbf{d_2}$ on pygidial tergum short, 0.4 of the length of pygidial $\mathbf{a_1}$; their distance apart 13 times longer than setae.

Etymology. - From Latin *aduncus* = bent inward (styli).

Affinities. - The species is well defined by the following characters of the pygidium: the setae $\mathbf{a_3}$ absent, the posterior border of the tergum with a semicircular lobe and the **st** with knee. Disregarding the absence of the pygidial setae $\mathbf{a_3}$ it seems to be close to *A. hubbelli* REMY from Michigan (REMY 1956c). These two species have similar antennal branch **s** with proportionately long and large globulus **g** and very similar anal plates. *A. aduncus* is separated from *A. hubelli* also by the shape of the pubescence on the $\mathbf{T_3}$ (long ramose in *aduncus*, short simple in *hubbelli*) and by the shape of the setae on the trochanter of leg 9 (simple, not furcate).

The absence of the setae $\mathbf{a_3}$ of the pygidial tergum is a remarkable character which makes the species difficult to classify. It is here provisionally placed in *Allopauropus (Decapauropus)* because its general appearance is that of a species belonging there. However, the chaetotaxy of the pygidial sternum with setae $\mathbf{b_1}$ and $\mathbf{b_2}$ and both setae $\mathbf{d_1}$ and $\mathbf{d_2}$ on the pygidial tergum in subadults is a very rare combination. It is known in *Allopauropus (Perissopauropus) amphikomos* (see below), a species which by other reasons is very dissimilar to *aduncus*, and in *Allopauropus dybasi* REMY from Guam (REMY 1957d), both nevertheless with $\mathbf{a_3}$ on the pygidial tergum. At present both *aduncus* and *dybasi* are impossible to assign into existent subgenera in *Allopauropus*.

Subgenus *Perissopauropus* n. subgen.

Diagnosis. - A subgenus in *Allopauropus* with the following combination of characters: (1) pygidial sternum with setae $\mathbf{b_1}$ and $\mathbf{b_2}$; (2) pygidial tergum with setae $\mathbf{d_1}$ and $\mathbf{d_2}$ in subadults and juveniles; (3) anterodistal and posterodistal corners of the sternal antennal branch equally truncate and (4) an exterior vesicle protruding backwards from posterior part of each temporal organ.

Type species. - *Allopauropus (Perissopauropus) amphikomos* n.sp. (Figs. 194-210).

Etymology. - From Greek *perissos* = beyond the regularly number or size, odd as applied to numbers (pygidial setae).

Remarks. - The new subgenus show a combination of characters typical for *Allopauropus* s.str., setae $\mathbf{d_1}$ and $\mathbf{d_2}$ on the pygidial tergum in subadults and juveniles, and are found in other genera too and so are a few other characters not typical for the main part of the species in *Allopauropus* as the strong body with long posterior legs and conspicuous pubescence covering almost all parts of the body, antennae and legs. The erection of a new taxon above the species level is also justified by some peculiar properties which are not easy to include into existing taxa e.g. the anteriorly protruding preantennal part of the head and the peculiar shape of the styli and the aberrant seta on the distal part of the tarsi.

36. *Allopauropus (Perissopauropus) amphikomos* n.sp. (Figs. 194-210)

Type locality. - Brazil, Manaus, campinarana.

Type material. - Holotype: subad. 8(♂), locality as above, 17.VIII.1988, loc. K30CPA.

Other material. - Ibidem, 1 juv. 6, loc. K31CPA, and 1 juv. 3, loc. K14CPA, 17.VIII.1988. - In all 3 specimens.

Description

Length. - 0.95 mm.

Head. - Tergal and lateral setae long, tapering, all terminated by a thin straight hair and convered with a very distinct pubescence of straight oblique hairs. Relative lengths of setae, 1st row: $\mathbf{a_1}$ = 10, $\mathbf{a_2}$ = 8; 2nd row: $\mathbf{a_1}$ = 8, $\mathbf{a_2}$ = $\mathbf{a_3}$ = 12; 3rd row: $\mathbf{a_1}$ = 10, $\mathbf{a_2}$ = 11; 4th row: $\mathbf{a_1}$ = $\mathbf{a_2}$ = 14, $\mathbf{a_3}$ = 16, $\mathbf{a_4}$ = 13; lateral group: $\mathbf{l_1}$ = 12, $\mathbf{l_2}$ = 13, $\mathbf{l_3}$ = 16. The ratio $\mathbf{a_1}$/$\mathbf{a_1}$-$\mathbf{a_1}$ is in 1st row 2.1, 2nd row 0.7, 3rd row 1.0 and 4th row 1.2. Length of temporal organs 0.7 of their shortest distance apart. No pistil but a subcylindrical vesicular appendage projects backwards from an indentation in the posterior margin of each temporal organ on a level of seta $\mathbf{l_2}$. Head sparsely, temporal organs more densely pubescent.

Antennae. - Segment 3 with a rudimentary globulus and 3 setae resembling those on tergal side of head. Segment 4 with 5 distal setae which are tapering, from base and outwards pubescent-striate-annulate. Relative lengths of setae: **p** = 100, **p'** = 65, **p''** = 43, **r** = 30, **u** = 1; **p'''** rudimentary. Tergal seta **p** 1.2 times as long as tergal branch **t**. The latter slender, cut obliquely distally, 3.7 times as long as its greatest diameter, 0.9 of the length of sternal branch **s**. That branch 2.8 times as long as its greatest diameter, subcylindrical, anterodistal and posterodistal corners equally truncate. Seta **q** similar to **p'** of 4th segment, 0.7 of the length of **s**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F_1}$ = 100, $\mathbf{F_2}$ = 105, $\mathbf{F_3}$ = 103, $\mathbf{bs_1}$ = $\mathbf{bs_2}$ = $\mathbf{bs_3}$ = (9-)12. The $\mathbf{F_1}$ twice longer than **t**, $\mathbf{F_2}$ and $\mathbf{F_3}$ 2.0 and 1.9 times as long as **s** respectively. Distal calyces small, subhemispherical; distal part of flagella axes with a small globular swelling just below calyx. Globulus **g** pyriform, 1.5 times as long as wide, distinctly pubescent, with 9 bracts; width of **g** 0.8 of the greatest diameter of **t**. Antennae with oblique pubescence.

Trunk. - Setae of collum segment subequal in length, furcate; primary branches tapering and pointed with oblique pubescence, secondary branches rudimentary, cylindrical, blunt, glabrous. Sternite process triangular, narrow anteriorly and with apical incision. Appendages wide and low with flat 4-parted caps. Pubescence distinct on process and caps, very faint for the rest.

Setae on tergites not available for study.

Relative lengths of trichobothria: $\mathbf{T_1}$ = 100, $\mathbf{T_2}$ = ?, $\mathbf{T_3}$ = 138, $\mathbf{T_5}$ = 210. They have simple, thin, straight axes; pubescence hairs strong, straight, simple.

Penes short, subhemispherical with distal narrowly conical extension, shortly pubescent, no seta.

Legs. - Setae on coxa and trochanter of leg 8 tapering, pointed, with oblique pubescence, the one of coxa cleft distally; seta on trochanter 1.2 times as long as coxal seta. Coxal setae in leg 2 thicker, blunt, with rudimentary, cylindrical, glabrous secondary branch. Tarsus of leg 8 slender, straight, tapering, 5.3 times as long as its greatest diameter. Proximal seta tapering, pointed, curved inwards, with a few long straight depressed pubescence hairs, its length 0.4 of the length of tarsus and 4.7 times as long as distal seta; the latter short fork-shaped as a trident with straight subsimilar spinous prongs. Pubescence of tarsus coarse, hairs on tergal side long and increasing in length towards proximal end, there are a few hairs only between proximal seta and the upper end of tarsus, length of longest hair 0.4 of greatest diameter of tarsus; pubescence on lateral and sternal sides shorter and denser but distinct.

Pygidium. Tergum. - Posterior margin straight. Relative lengths of setae: $\mathbf{a_1}$ = 100, $\mathbf{a_2}$ = 62, $\mathbf{a_3}$ = 110, **st** = 40, $\mathbf{d_1}$ = 84, $\mathbf{d_2}$ = 25. These setae are tapering, $\mathbf{a_1}$ and $\mathbf{a_2}$ almost glabrous (with 1-2 pubescence hairs only), pointed, curved inwards and diverging, $\mathbf{a_3}$ pointed, terminated by a long, thin, straight hair, curved inwards distally, diverging, ≈ 10 very long depressed pubescence hairs on outer and sternal sides; **st** pointed, almost straight, converging, with ≈ 10 long, straight, oblique, spinous hairs which decrease in length outwards. Distance $\mathbf{a_1}$-$\mathbf{a_1}$ 0.6 of the length of $\mathbf{a_1}$; distance $\mathbf{a_1}$-$\mathbf{a_2}$ about as long as distance $\mathbf{a_2}$-$\mathbf{a_3}$; distance **st**-**st** 1.1 times as long as **st** and 0.8 of distance $\mathbf{a_1}$-$\mathbf{a_1}$. Cuticle of tergum sparsely covered with long spinous hairs most posteriorly.

Setae $\mathbf{d_1}$ and $\mathbf{d_2}$ tapering and pointed, $\mathbf{d_1}$ glabrous, $\mathbf{d_2}$ with a few long depressed pubescence hairs; $\mathbf{d_1}$ 1.4 times as long as their distance apart, ≈ 0.8 of the length of $\mathbf{a_1}$ and 1.7 times as long as $\mathbf{d_2}$.

Sternum. - Posterior margin somewhat indented. Relative lengths of setae ($\mathbf{a_1}$ = 100): $\mathbf{b_1}$ = 82, $\mathbf{b_2}$ = 50. They are tapering, pointed, curved inwards, terminated by a thin straight hair, $\mathbf{b_1}$ with distinct oblique pubescence, $\mathbf{b_2}$ with sparese long pubescence resembling that of $\mathbf{a_3}$. The $\mathbf{b_1}$ 1.1 times as long as their distance apart; $\mathbf{b_2}$ almost 1.4 times as long as distance $\mathbf{b_1}$-$\mathbf{b_2}$. Anal plate Y-shaped with its prongs 1.6 times

as long as their common base; distal part of each prong terminated by a cylindrical blunt extension, 2/3 of the length and 0.5 of the diameter of the prong; at inner base of each prong a spine very similar to the **st** is protruding backwards, these spines curved inwards and converging, almost as long as prong with its appendage. Plate with distinct oblique pubescence; cuticle of sternum with long sparse pubescence.

Etymology. - From Greek *amphikomos* = covered with hair.

Affinities. - Two earlier described species provisionally placed in *Allopauropus* show striking resemblance to the new species and have to be placed in the new subgenus, *Allopauropus bounourei* REMY and *? Allopauropus tridens* SCHELLER. The former was described from Cameroun (REMY 1954) but has been found also in the Ivory Coast (REMY 1957b), Uganda (REMY 1960b) and Chile (SCHELLER 1968), one specimen from each country. Of the latter 284 specimens have been collected in Angola (SCHELLER 1975) and one in Sierra Leone (SCHELLER 1995).

The new species is distinguished from *A. bounourei* especially by antennal and pygidial characters: globulus **g** and seta **u** proportionately shorter and the **st** and $\mathbf{a}_3$ with much longer and more erect and sparse pubescence in *amphikomos* than in *bounourei*; moreover is the distal part of the anal plate different, e.g. are the posterolateral lengthenings cylindrical in *amphikomos* but linguiform and more or less pointed in *bounourei*. In the distinction of the new species from *tridens* the following characters may be used: the seta **u** on the 4th antennal segment, a knob-like rudiment in *amphikomos*, a short but distinct seta with pubescence in *tridens*; the length/width ratio of the tergal antennal branch, 3.7 in *amphikomos*, 4.7-6.6 *tridens*; the shape of the antennal globulus, short and narrow in *amphikomos*, longer and thick in *tridens*; the shape of the pubescence hair of the styli **st**, very thin and straight in *amphikomos*, thicker and somewhat curved in *tridens*; the pygidial setae $\mathbf{b}_1$, tapering and with fairly sparse and strong pubescence in *amphikomos*, somewhat lanceolate and with dense and short pubescence in *tridens*; the shape of the distal part of the branches of the anal plate, long and cylindrical in *amphikomos*, shorter and tapering in *tridens*.

Genus *Cauvetauropus* REMY, 1952b

The genus is here reported for the first time from the Neotropical Region.

In *Cauvetauropus biglobulosus* which is described below the pygidial sternum has one pair of setae only, $\mathbf{b}_1$. This chaetotaxy is shown also by 4 more species in the genus. The other 5 species known have all two pairs, $\mathbf{b}_1$ and $\mathbf{b}_2$. Because the number of setae on the pygidial sternum is a stable character which has been used to great advantage in the subdivision in other genera it seems justifiable to create new subgenus group taxa for the mentioned species groups in *Cauvetauropus*. So the genus *Cauvetauropus* is here divided into two subgenera.

Cauvetauropus, nominate subgenus

Diagnosis. - Pygidial sternum with one pair of setae, $\mathbf{b}_1$.

Type species: *Cauvetauropus (Cauvetauropus) microchaetus* (REMY, 1948).

Species: *C.(C.) arbustivus* (REMY & BITTARD, 1956)
biglobulosus SCHELLER, n.sp.
clavatus REMY & MOYNE, 1960
duhouxi REMY, 1960
microchaetus (REMY, 1948)

Nesopauropus, n. subgenus

Diagnosis. - Pygidial sternum with 2 pairs of setae, $\mathbf{b}_1$ and $\mathbf{b}_2$.

Type species: *Cauvetauropus (Nesopauropus) ceylonicus* SCHELLER, 1970.

Etymology. - From Greek *nesos* = island, indicating that the species are known up to now from islands only (Sri Lanka and the Seychelles).

Species: *C.(N.) ceylonicus* SCHELLER, 1970
clavistylus SCHELLER, 1982
proprius SCHELLER, 1982
subtilis SCHELLER, 1970
unifibratus SCHELLER, 1970

There may be other differences between the two subgenera. In the nominate subgenus the stage ad. 9 is unknown and the penes are well developed in specimens with 8 pairs of legs whereas in the species of *Nesopauropus* the adults seem to have 9 pairs of legs. In *C. (N.) ceylonicus* only the ad. 9 has not been found but up to now only 5 specimens have been collected in all. Moreover the nominate subgenus may have a wider range (West Palearctic, Ethiopian, Oriental and Neotropical Regions), while *Nesopauropus* has been found on Sri Lanka and the Seychelles only.

Subgenus *Cauvetauropus* s.str.

37. *Cauvetauropus (C.) biglobulosus* n.sp. (Figs. 211-223)

Type locality. - Brazil, Manaus, campinarana.

Type material. - Holotype: ad. 8(♀), locality as above, 29.III.1988, loc. K21CPA.

Paratypes: Same data as holotype, 1 ad. 8(♀); ibidem, 1 ad. 8(♀), 17.VIII.1988, loc. K16CPA. - 2 specimens.

Other material. - Ibidem, 1 ad. 8(♀), 1 juv. 6, 1 juv. 5, loc. K13CPA, and 1 ad. 8(♀), 1 juv. 6, loc. K25CPA, 17.VIII.1988. 5 specimens.

Manaus, Rio Tarumã Mirím, capoeira, 1 ad. 8(♂), 1 juv. 6, 29.IX.1982, loc. K18TM and 1 juv. 5, 28.II.1983, loc. K33TM and 1 ad. 8(♂), 24.VIII.1983, loc. K19TM. 4 specimens. - In all 12 specimens.

Description

No specimens with 9 pairs of legs were found; male specimens with 8 pairs of legs have fully developed penes.

Length. - (0.48-)0.53(-0.55) mm.

Head. - Tergal setae short-medium lengths, subcylindrical-cylindrical, striate, blunt. In the 4th row the $\mathbf{a}_2$ have not been found. Relative lengths of setae, 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = (11-)12; 2nd row: $\mathbf{a}_1$ = 11(-13), $\mathbf{a}_2$ = (18-)24, $\mathbf{a}_3$ = (10-)11; 3rd row: $\mathbf{a}_1$ = 12(-13), $\mathbf{a}_2$ = 14(-16); 4th row: $\mathbf{a}_1$ = (14-)17, $\mathbf{a}_3$ = 14(-15), $\mathbf{a}_4$ = (22-)24; lateral group: $\mathbf{l}_1$ = (15-)22, $\mathbf{l}_2$ = (15-)16, $\mathbf{l}_3$ = 15(-16). The ratio $\mathbf{a}_1/\mathbf{a}_1$-$\mathbf{a}_1$ is in 1st and 3rd rows (0.9-)1.0, 2nd row 0.5(-0.7), in 4th row (1.6-)1.7. Length of temporal organs (0.8-)1.0(-1.1) times as long as their shortest distance apart; in the middle an ovoid pistil without opening through the cuticle, length 0.2 of the length of temporal organ; small aperture at the posterior margin of temporal organ anterior of $\mathbf{l}_1$. Head cuticle glabrous.

Antennae. - Segment 4 with 5 setae. They are cylindrical, blunt; **p**, **p'**, **p''** and **r** striate, **p'''** very thin, glabrous. Relative lengths of setae: **p** = 100, **p'** = (82-)87, **p''** = (38-)47, **p'''** = (24-)27(-33), **r** = (88-)93(-95). No **u**. Tergal seta **p** 1.3(-1.7) times as long as tergal branch **t**. The latter widest in distal 1/3, (1.9-)2.3 times as long as its greatest diameter and (0.8-)0.9 of the length of sternal branch **s** which is more truncate anterodistally than posterodistally; the **s** 1.7(-2.0) times as long as its greatest diameter. Its seta **q** cylindrical, striate, blunt, 0.9 of the length of branch. Relative lengths of flagella (base segments included) and

base segments: $\mathbf{F_1}$ = 100, $\mathbf{bs_1}$ = (15-)17; $\mathbf{F_2}$ = (91-)93(-100), $\mathbf{bs_2}$ = 13; $\mathbf{F_3}$ = (86-)91(-94), $\mathbf{bs_3}$ = (13-)16. The $\mathbf{F_1}$ (2.7-)2.8(-3.3) times as long as **t**, $\mathbf{F_2}$ and $\mathbf{F_3}$ (2.3-)2.7 and (2.0-)2.6 times as long as **s** respectively. Distal calyces rather small, oblique in $\mathbf{F_2}$; distal part of flagella axes very little widened. Globulus **g** (1.2-)1.3 times as long as wide; 10(-12) bracts; capsule spherical; diameter of **g** as long as greatest diameter of **t**. Antennae glabrous.

Trunk. - Collum segment has neither process nor appendages and only one pair of setae which are simple cylindrical, striate, blunt, length of setae 0.3 of their distance apart.

Setae on tergites as setae on head, on posterior tergites as long as anterior setae on head.

Relative lengths of trichobothria: $\mathbf{T_1}$ = 100, $\mathbf{T_2}$ = 100(-110), $\mathbf{T_3}$ = (108-)114, $\mathbf{T_4}$ = 116(-119), $\mathbf{T_5}$ = (120-)124(-147). They have thin straight axes, most proximal part with short, simple, oblique hairs, further outwards also with longer, pubescent, partly furcate branches; on $\mathbf{T_1}$, $\mathbf{T_2}$ and $\mathbf{T_4}$ these branches are long and arranged in one plane, on $\mathbf{T_3}$ long too and in almost one plane, in $\mathbf{T_5}$ the branches are shorter and standing out in many directions.

Penes. - No ad. 9 were found. In the stage with 8 pairs of legs 2 ♂ were found both with fully developed penes bearing apical setae. The species seems to reach adult stage already in the stage 8 pairs of legs. Well developed penes in this stage is known also in all other species of the subgenus (REMY 1948b; REMY & BITTARD 1956; REMY & MOYNE 1960; SCHELLER 1970).

Legs. - Legs very short. Setae on coxa and trochanter of legs 1-8 simple, cylindrical, striate, blunt. Tarsus of leg 8 tapering, 2.3(-3.0) times as long as its greatest diameter. No proximal seta; distal seta cylindrical, striate, blunt, 0.2 of the length of tarsus, blunt. Cuticle of tarsus almost glabrous.

Pygidium. Tergum. - Posterior margin evenly rounded. Relative lengths of setae: $\mathbf{a_1}$ = 10, $\mathbf{a_2}$ = (9-)10, $\mathbf{a_3}$ = (37-)44(-47), **st** = (5-)6. These setae are cylindrical, blunt; $\mathbf{a_1}$ and **st** faintly striate, $\mathbf{a_2}$ and $\mathbf{a_3}$ striate; $\mathbf{a_1}$ straight, $\mathbf{a_2}$ and $\mathbf{a_3}$ diverging, the latter also curved inwards; **st** converging. Distance $\mathbf{a_1}$-$\mathbf{a_1}$ (1.8-)2.0 times as long as $\mathbf{a_1}$; distance $\mathbf{a_1}$-$\mathbf{a_2}$ (1.9-)2.0 times as long as distance $\mathbf{a_2}$-$\mathbf{a_3}$; distance **st**-**st** (3.5-)3.7 times as long as **st** and about as long as distance $\mathbf{a_1}$-$\mathbf{a_1}$. Cuticle glabrous.

Sternum. - Posterior margin with broad indention. Only one pair of setae, $\mathbf{b_1}$, their relative length ($\mathbf{a_1}$ = 10) = 14 (-20). They are short, subcylindrical, striate, blunt, 0.4(-0.6) of their distance apart. Anal plate narrowest anteriorly, broadest posteriorly, wedge-shaped, lateral margins concave, 1.3 times as long as broad; posterolateral corners lengthened into two conical, blunt, diverging appendages which are separated by two semicircular indentations, one on each side of a small median incision; two spherical short-stalked appendages protrude posteriorly from the bottom of the semicircular indentations; plate with short dense pubescence, spherical appendages glabrous.

Etymology. - From Latin *bi* = two and *globulus* = ball, sphere (submedian appendages of the anal plate).

Affinities. - The genus seems to be morphologically heterogenous with a great variation in the chaetotaxy of the legs and the pygidium, very different types of trichobothria and anal plates. This situation is additionally strengthened by the new species. It has not only some characters otherwhere more or less rare as the absence of the proximal seta on the tarsi of the last pair of legs, branched trichobothria and large pistil in the temporal organs but also absence of the process, the appendages and one of the two pairs of setae on the collum segment. The considerable reduction of the collum segment is striking and as far as known such has not previously been discovered in any species. The affinities are impossible to trace at present.

Genus *Stylopauropoides* REMY, 1956a

A juv. 5 specimen belonging to *Stylopauropoides* has been collected from the capoeira at the Rio Tarumã Mirím, 28.II.1983, loc. K20TM.

The genus is here reported for the first time from Brazil but it is previously known from the southern Neotropical region. REMY described (1962b) *Stylopauropoides ringueleti* from Patagonia and later that species was reported from the Valdivia Province in Chile (SCHELLER 1968).

The Brazilian specimen is not in the best condition but may belong to an other species because the trichobothria $\mathbf{T_3}$ are dissimilar (proximal half much more widened than in *ringueleti* and the distal half simple with very short pubescence, not with many short pubescent branches). Morever, the tergal setae on the head are clavate (not thin, subcylindrical, annulate) and the shape of the pygidial setae $\mathbf{a_1}$ and **st** seem to be deviating.

Genus *Hemipauropus* SILVESTRI, 1902

38. *Hemipauropus amazonicus* SCHELLER, 1994

Material. - Brazil, Manaus, Rio Tarumã Mirím, capoeira. 87 specimens.

Manaus, campinarana, 1 subad. 8(♀), loc. K16CPA and 1 ad. 9(♀), loc. K17CPA, 29.III.1988; ibidem, 1 subad. 8(♀), loc. K30CPA, 17.VIII.1988. 3 specimens. - In all 90 specimens.

39. *Hemipauropus piriformis* SCHELLER, 1994

Material. - Brazil, Manaus, Rio Tarumã Mirím, capoeira. 217 specimens.

Manaus, campinarana, 1 ad. 9(♀), 1 juv. 6, loc. K32CPA, 29.III.1988; ibidem, 2 juv. 5, loc. K13CPA and 1 subad. 8(♀), loc. K23CPA, 17.VIII.1988. 5 specimens.

Ibidem, campina, 3 ad. 9(2 ♂, 1 ♀), 2 subad. 8(♀), 1 juv. 6, loc. K14CPA and 2 juv. 6, 2 juv. 5, loc. K15CPA and 1 ad. 9(♂), loc. K22CPA and 3 ad. 9(1 ♂, 2 ♀), 1 subad. 8(♀), 1 juv. 6, 1 juv. 5, 29.II.1988. 17 specimens. - In all 239 specimens.

Subfamily Scleropauropodinae

This subfamily is a great problem for the taxonomist. The present author (SCHELLER 1970), in a study of the pauropods of Sri Lanka, studied also some characters separating families in Pauropoda. Some characters found by early authors had lost their value as many new taxa were described and it was obvious that the delimitation of Scleropauropodidae from Pauropodidae was dubious. Hence the former family was lowered to subfamily level. However, this is probably not enough. Since then new species have appeared, particularly from Central Amazonas, which have been difficult to discriminate from *Allopauropus* in Pauropodinae and when the stage subad. 8 has become better known in *Scleropauropus* I am convinced that many species at least in the subgenera *Scleropauropus* s.str. and *Scleropauropoides* have to be included in *Allopauropus*. The former may be a subgenus in *Allopauropus* characterized by setae $\mathbf{b_1}$ and $\mathbf{b_3}$ on the pygidial sternum and with both $\mathbf{d_1}$ and $\mathbf{d_2}$ on the pygidial tergum in subad. 8, and the species belonging to *Scleropauropoides* may be included in the subgenus *Decapauropus* in *Allopauropus*.

Genus *Scleropauropus* SILVESTRI, 1902

40. *Scleropauropus tarumamirimi* SCHELLER, 1994

Material. - Brazil, Manaus, Rio Tarumã Mirím, capoeira. 14 specimens.

Manaus, campinarana, 1 ad. 9(♀), loc. K16CPA and 6 ad. 9(2 ♂, 4 ♀), 1 juv. 6, loc. K23CPA and 3 ad. 9(1 ♂, 2 ♀), 1 juv. 6, loc. K24CPA and 2 ad. 9(♀), 2 juv. 3, loc. K32CPA, 29.III.1988; ibidem, 1 subad. 8(♀), loc. K15CPA and 1 ad. 9(♀), loc. K17CPA and 2 ad. 9(♀), 1 juv. 5, loc. K18CPA and 3 ad. 9(2 ♂, 1 ♀), loc. K19CPA and 2 ad. 9(♂, ♀), 2 subad. 8(♀), loc. K20CPA and 1 ad. 9(♀), 2 subad.

8(♂, ♀), loc. K26CPA and 1 ad. 9(♂), loc. K30CPA and 1 ad. 9(♀), 1 subad. 8(♀), loc. K31CPA and 1 subad. 8(♀), loc. K33CPA, 17.VIII.1988. 35 specimens.

Brazil, Manaus, Lago Janauarí, 1 ad. 9(♂), loc. K30LJ, 17.VIII.1987 and 1 juv. 5, K18LJ, 13.I.1988; ibidem, 1 ad. 9(♂), loc. K26LJ and 1 subad. 8(♀), loc. K30LJ, 13.X.1987. 4 specimens.

Brazil, Manaus, Praja Grande, 1 ad. 9(♀), loc. K14 and 1 ad. 9(♂), loc. K18 and 1 ad. 9(♀), loc. K20 and 3 ad. 9(♂), loc. K21, 23.IV.1981. 6 specimens. - In all 59 specimens.

41. *Scleropauropus rimatus* n.sp. (Figs. 224-232)

Type locality. - Brazil, Manaus, campina.

Type material. - Holotype: ad. 9(♀), locality as above, 29.II.1988, loc. K19CPA.

Paratypes: Ibidem, 2 ad. 9(♀), 29.II.1988, loc. K16CPA. 2 specimens.

Other material. - Ibidem, 2 juv. 6, 29.II.1988, loc. K26CPA, 29.II.1988. 2 specimens.

Manaus, Rio Tarumã Mirím, capoeira, 1 subad. 8(♀), loc. K10TM and 1 ad. 9(♀), loc. K33TM, 27.VI.1983. 2 specimens.

Manaus, campinarana, 1 ad. 9(♂), loc. K11CPA and 2 ad. 9(♂), loc. K14CPA and 2 ad. 9(♂, ♀), loc. K18CPA and 1 subad. 8(♀), loc. K25CPA and 1 ad. 9(♂), loc. K26CPA and 1 ad. 9(♂), loc. K31CPA, 29.III.1988; ibidem, 2 ad. 9(♀), loc. K10CPA and 1 ad. 9(♀), loc. K14CPA and 3 ad. 9(♂), loc. K24CPA and 1 ad. 9(♀), 1 subad. 8(♀), loc. K26CPA and 3 ad. 9(♀), 1 subad. 8(♂), loc. K27CPA and 2 ad. 9(♂, sex ?), loc. K29CPA, 17.VIII.1988. 22 specimens.

Manaus, fucada, 2 ad. 9(♀), 1 subad. 8(♀), 16.IX.1991, loc. K12. 3 specimens.

Manaus, Lago Janauarí, 1 ad. 9(♀), 14.II.1988, loc. K10LJ. 1 specimen. - In all 33 specimens.

Description

Length. - 0.46(-0.54) mm.

Head. - Tergal setae of medium length, subcylindrical-cylindrical, densely striate, blunt. Relative lengths of setae, 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = 8(-10); 2nd row: $\mathbf{a}_1$ = 10(-14), $\mathbf{a}_2$ = 12(-19), $\mathbf{a}_3$ = 17(-21); 3rd row: $\mathbf{a}_1$ = $\mathbf{a}_2$ = 7(-8); 4th row: $\mathbf{a}_1$ = 8(-10), $\mathbf{a}_2$ = 13(-16), $\mathbf{a}_3$ = 12(-18), $\mathbf{a}_4$ = 9(-13); lateral group: $\mathbf{l}_1$ = 17(-24), $\mathbf{l}_2$ = 13(-19), $\mathbf{l}_3$ = 14(-20). The ratio $\mathbf{a}_1/\mathbf{a}_1$-$\mathbf{a}_1$ is in 1st row (0.9-)1.2, 2nd row (0.6-)0.7, 3rd row (1.0-)1.3 and 4th row (0.8-)1.0. Temporal organs short, rounded, 1.2 times as long as their shortest distance apart. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae which are cylindrical, striate, blunt. Relative lengths of setae: **p** = 100, **p'** = (71-)87, **p''** = 45(-46), **r** = (38-)39(-40). The **p'''** a rudimentary knob only; no **u**. Tergal seta **p** as long as (-1.1 times as long as) tergal branch **t**. The latter (2.2-)2.5 times as long as its greatest diameter and about as long as sternal branch **s** which is 1.8(-2.0) times as long as its greatest diameter and with its anterodistal corner truncate. Seta **q** similar to **p''** of 4th segment, (0.8-)1.0 of the length of **s**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F}_1$ = 100, $\mathbf{bs}_1$ = 9(-10); $\mathbf{F}_2$ = (35-)40(-41), $\mathbf{bs}_2$ = 5(-6); $\mathbf{F}_3$ = 87(-93), $\mathbf{bs}_3$ = 7(-10). The $\mathbf{F}_1$ (2.9-)3.3 times as long as **t**, $\mathbf{F}_2$ and $\mathbf{F}_3$ (1.1-)1.4 and (2.3-)2.5(2.9) times as long as **s** respectively; $\mathbf{F}_2$ thinner and with smaller calyces than $\mathbf{F}_1$ and $\mathbf{F}_3$. Distal calyces helmet-shaped; distal part of flagella axes not widened. Globulus **g** pyriform with long stalk, (1.4-)1.6 times as long as wide; (8-)9(-10) bracts; capsule spherical; width of **g** 0.7(-0.8) of the greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment subcylindrical, striate, furcate; secondary branch rudimentary, cylindrical, glabrous; sublateral seta 1.5(-1.6) times as long as submedian one; sternite process narrow, incised anteriorly, cuticle granular; appendages much wider in proximal than in distal half, distal caps subhemispherical and glabrous, for the rest the appendages have a distinct erect pubescence.

Setae on tergites straight, cylindrical, striate, blunt. There are 4+4 setae on tergite I, 6+6 on II-V and 4+2 on VI. Submedian posterior setae on VI 0.3(-0.4) of their distance apart and (1.2-)1.3 times as long as pygidial $\mathbf{a}_1$.

Relative lengths of trichobothria: $\mathbf{T}_1$ = 100, $\mathbf{T}_2$ = 93-97(-103), $\mathbf{T}_3$ = 97-101(-122), $\mathbf{T}_4$ = (114-)116(-124), $\mathbf{T}_5$ = (121-)154. They have very thin simple straight axes, thickest in $\mathbf{T}_3$; pubescence hairs straight, oblique on proximal 2/3 $\mathbf{T}_1$-$\mathbf{T}_4$, more outwards erect, strongest on $\mathbf{T}_3$, shortest on $\mathbf{T}_5$.

Penes (paratype) conical, 1.7 times as long as their greatest diameter, glabrous, distinctly narrowing in distal 1/3; seta 0.3 of the length of penis.

Legs. - Setae on coxa and trochanter of leg 9 similar, furcate, branches of subequal length; primary one thickest, blunt, with short oblique pubescence, secondary one cylindrical, striate, blunt. More anteriorly these setae have rudiments only of the secondary branches and coxal setae are somewhat clavate, those of trochanter thin, cylindrical, annulate. Coxal seta in leg 2 in male somewhat thicker than other coxal setae. Tarsus of leg 9 tapering, (3.4-)3.9 times as long as its greatest diameter. Proximal seta curved, tapering, pointed, with distinct oblique pubescence, its length (0.3-)0.4 of the length of tarsus and (2.0-)2.4 times as long as distal seta which is subclavate and densely annulate. Cuticle of tarsus distinctly pubescent.

Pygidium. Tergum. - Posterior margin straight but with a triangular process with convex margins below $\mathbf{a}_1$. Relative lengths of setae: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = (18-)20, $\mathbf{a}_3$ = (40-)52, **st** = 6. The $\mathbf{a}_1$ straight lanceolate; $\mathbf{a}_2$, $\mathbf{a}_3$ and **st** curved inwards, tapering, $\mathbf{a}_2$ and $\mathbf{a}_3$ pointed, **st** blunt; $\mathbf{a}_1$ $\mathbf{a}_2$ and **st** with distinct oblique pubescence, $\mathbf{a}_3$ almost glabrous; $\mathbf{a}_1$ and $\mathbf{a}_3$ diverging, $\mathbf{a}_2$ and **st** converging. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ (1.5-)1.8(-2.0) times as long as $\mathbf{a}_1$; distance $\mathbf{a}_1$-$\mathbf{a}_2$ ≈ 3 times longer than distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** (5.0-)5.7(-5.9) times as long as **st** and (1.7-)1.9 times as long as distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b}_1$ with deep indentation and a large median broadly linguiform process below anal plate. Relative lengths of setae ($\mathbf{a}_1$ = 10): $\mathbf{b}_1$ = (65-)68(-72), $\mathbf{b}_3$ = (9-)10. The former (1.2-)1.3(-1.4) times as long as their distance apart, the latter 0.3(-0.4) of distance $\mathbf{b}_3$-$\mathbf{b}_3$. These setae are tapering, $\mathbf{b}_3$ striate, pointed, $\mathbf{b}_1$ shortly pubescent and striate distally. Anal plate shortly pubescent, narrowest anteriorly, with somewhat convex lateral margins and deep narrow median incision dividing the plate into two subrectangular lobes; each lobe with two appendages: a short glabrous posterolateral one and a submedian one which is tapering striate and directed downwards and inwards; length of submedian appendages 0.3(-0.4) of the length of plate. Cuticle of sternum glabrous anterior of insertion areas of $\mathbf{b}_1$ and on posteriomedian lobe, for the rest faintly pubescent.

Etymology. - From Latin *rimatus* = fissure (in the anal plate).

Affinities. - *S. rimatus* shows some affinities (legs and pygidium have similar shape and chaetotaxy) to *S. heterochaetus* REMY from Algeria and Morocco (REMY 1947, 1952a) but there are good distinguishing characters e.g. in the length of the antennal seta **q** (as long as or somewhat shorter than **s**, not about half that length), the shape of the setae on the posterior tergites (cylindrical, not lanceolate), the number of setae on tergite V (6+6, not 6+4), the shape of the pygidial setae $\mathbf{a}_2$ (tapering, about twice longer than the $\mathbf{a}_1$, not lanceolate and about as long as the $\mathbf{a}_1$) and the shape of the anal plate (with deep posteromedian cleft, not shallow).

42. *Scleropauropus fissus* SCHELLER, 1994

Material. - Brazil, Manaus, Tarumã Mirím, capoeira. 1 specimen.

43. *Scleropauropus beritae* n.sp. (Figs. 233-242)

Type locality. - Brazil, Manaus, Careiro Island.

Type material. - Holotype: ad. 9(♀), locality as above, 24.XI.1986, loc. K28CA.

Paratype: Ibidem, 1 subad. 8(♀), 24.XI.1986, loc. K12CPA.

Other material. - Ibidem, 1 juv. 6, 24.XI.1986, loc. K26CA. 1 specimen.

Manaus, Rio Tarumã Mirím, capoeira, 2 ad. 9(♀), 27.VI.1983, loc. K24TM. 2 specimens. - In all 5 specimens.

Description

Length. - 1.52 mm.

Head. - Tergal setae thin cylindrical, anterior ones somewhat tapering, submedian ones fairly long, sublateral ones long. Relative lengths of setae, 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = 11; 2nd row: $\mathbf{a}_1$ = $\mathbf{a}_2$ = 15, $\mathbf{a}_3$ = 13; 3rd row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = 11; 4th row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = 20, $\mathbf{a}_3$ = 19, $\mathbf{a}_4$ = 15; lateral group: $\mathbf{l}_1$ = 12, $\mathbf{l}_2$ = 10, $\mathbf{l}_3$ = 13. The ratio $\mathbf{a}_1/\mathbf{a}_1$-$\mathbf{a}_1$ is in 1st row 1.2, 2nd row 1.3, 3rd row 2.0 and 4th row 1.9. Length of temporal organs as long as their shortest distance apart. No pistil; posterior aperture not studied. Head cuticle glabrous.

Antennae. - Segment 4 with 5 setae which are cylindrical, tapering, striate. Relative lengths of setae: **p** = 100, **p'** = 80, **p''** = 25, **r** = 32, **u** = 2. The **p'''** a rudimentary knob only. Tergal seta **p** as long as tergal branch **t**. The latter 4.1 times as long as its greatest diameter and 1.1 times as long as sternal branch **s** which is 3.7 times as long as its greatest diameter and with its anterodistal corner distinctly truncate. Seta **q** similar to **r** of 4th segment, 0.6 of the length of **s**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F}_1$ = 100, $\mathbf{bs}_1$ = 5; $\mathbf{F}_2$ = 44, $\mathbf{bs}_2$ = 4; $\mathbf{F}_3$ = 95, $\mathbf{bs}_3$ = 5. The $\mathbf{F}_1$ 2.5 times as long as **t**, $\mathbf{F}_2$ and $\mathbf{F}_3$ 1.2 and 2.6 times as long as **s** respectively. Distal calyces helmet-shaped; distal part of flagella axes not widened; $\mathbf{F}_2$ thinner than $\mathbf{F}_3$. Globulus **g** small, short-stalked, somewhat wider than long: 9-10 bracts; width of **g** 0.6 of the greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment furcate; main branch cylindrical, blunt, with short, dense, oblique pubescence, in distal part striate; secondary branch rudimentary, blunt, shortly pubescent. Sublateral seta 1.5 times as long as submedian one; sternite process subtriangular with small anterior incision; appendages with flat parted caps.

Setae on tergites as submedian setae on tergal side of head, all of about the same length. There are 4+4 setae on tergite I, 6+6 on II-V and 4+2 on VI. Submedian posterior setae on VI 0.3 of their distance apart and 1.3 times as long as pygidial $\mathbf{a}_1$.

Relative lengths of trichobothria: $\mathbf{T}_1$ = 100, $\mathbf{T}_2$ = 112, $\mathbf{T}_3$ = ?, $\mathbf{T}_4$ = 165, $\mathbf{T}_5$ = 197. They have thin simple straight axes with short oblique pubescence; axes thickest (paratype) in $\mathbf{T}_3$.

Legs. - Setae on coxa and trochanter of leg 9 furcate, blunt, with short, dense, oblique pubescence; secondary branch thinner than primary one; branches subequal in length on coxal seta, on trochanter the secondary branch is almost twice longer than primary one. Tarsus of leg 9 slender, tapering, 5.5 times as long as its greatest diameter. Setae with oblique straight pubescence, proximal one tapering, pointed, 0.3 of the length of tarsus and 2.7 times as long as distal seta which is cylindrical and blunt. Cuticle of tarsus with short oblique-depressed pubescence.

Pygidium. Tergum. - Posterior margin broadly triangular between the $\mathbf{a}_3$, most posterior part with two shallow submedian indentions. Relative lengths of setae: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = 20, $\mathbf{a}_3$ = 53, **st** = 4. All have oblique pubescence, $\mathbf{a}_1$, $\mathbf{a}_2$ and $\mathbf{a}_3$ subcylindrical, tapering; $\mathbf{a}_1$ and $\mathbf{a}_2$ are straight, $\mathbf{a}_2$ and $\mathbf{a}_3$ diverging, the latter also curved inwards; **st** cylindrical, straight, blunt, converging. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ 1.5 times as long as $\mathbf{a}_1$; distance $\mathbf{a}_1$-$\mathbf{a}_2$ 7.5 times as long as distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** 5.8 times as long as **st** and 1.5 times as long as distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle glabrous.

Sternum. - Posterior margin between $\mathbf{b}_1$ with broad indention and a large median trapezoide lobe below anal plate. Relative lengths of setae ($\mathbf{a}_1$ = 10): $\mathbf{b}_1$ = ?, $\mathbf{b}_3$ = 7. The latter cylindrical, striate, blunt, 0.3 of their distance apart. Anal plate narrowest anteriorly, with convex anterolateral margins; posterior margin cleft by a deep V-shaped incision; there are 6 posterior tapering appendages: 2 short diverging posterolateral ones on each side and 2 longer submedian ones which are somewhat curved inwards and covered with a strong oblique pubescence; plate glabrous; length of submedian appendages almost 0.5 of the breadth of plate. Cuticle of sternum glabrous anterior of median trapezoid lobe.

Etymology. - Dedicated to the technical assistant of Dr. J. Adis, Miss Berit Hansen, for her kind help in preparing this study.

Affinities. - As to both the antennae and the collum segment as well as to the trichobothria and the legs *S. beritae* is very close to *S. tarumamirimi* SCHELLER from the capoeira near the Rio Tarumã Mirím (SCHELLER 1994). They are distinguished first of all by the shape of the anal plate (submedian appendages tapering and pubescent and with two posterolateral appendages on each side in *beritae*, cylindrical and

glabrous and only one on each side in *tarumamirimi*). They are also dissimilar in the shape of the setae on the anterior part of the head (thin tapering, not thickest in distal half), the antennal setae **r** and **q** (tapering, not cylindrical) and by the shape of the sternal process of the collum segment (with anterior incision, not broad and blunt anteriorly. The new species has significant features in common also with *S. chapanecus* REMY (1957c) from Mexico but differs by several characters (the shape of the pygidial setae $\mathbf{a}_1$ and **st**, the mediosternal plate, the anal plate).

Subfamily Polypauropodinae

Key to Amazonian genera of Polypauropodinae

1. Pygidial setae $\mathbf{t}_1$ and $\mathbf{t}_2$ prestent . . . . . *Polypauropus* REMY
- Pygidial setae $\mathbf{t}_1$ and $\mathbf{t}_2$ absent . . . . . *Polypauropoides* REMY

Genus *Polypauropus* REMY, 1932

44. *Polypauropus latebricolus* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 6 specimens.
Manaus, campinarana, 1 ad. 9(♂), loc. K27CPA, 17.VIII.1988. 1 specimen.
Manaus, Careiro Island, 1 subad. 8(♂), loc. K27, 9.III.1987. 1 specimen. - In all 8 specimens.

45. *Polypauropus tropicus* SCHELLER, 1994

Material. - Manaus, Rio Tarumã Mirím, capoeira. 143 specimens.

Manaus, campinarana, 1 ad. 9(♂), loc. K19CPA and 1 ad. 9(♀), loc. K32CPA, 29.III.1988. 2 specimens.

Ibibidem, campina, 1 ad. 10(♀), loc. K10CPA and 1 ad. 10(♀), 1 subad. 8(♂), loc. K24CPA and 2 ad. 10(♀), 3 ad. 9(1 ♂, 2 ♀), 1 subad. 8(♀), 1 juv. 6, loc. K25CPA and 1 ad. 10(♀), 1 ad. 9(♂), loc. K26CPA and 1 ad. 10(♀), 2 ad. 9(♂), 1 subad. 8(♂), loc. K27CPA and 2 ad. 9(♀), loc. K31CPA and 3 ad. 9(1 ♂, 2 ♀), 1 subad. 8(♂), loc. K32CPA and 1 ad. 9(♂), loc. K33CPA, 29.II.1988. 23 specimens.

Ibidem, Careiro Island, 1 subad. 8(♂), 1 juv. 6, loc. K13CA and 1 juv. 6, loc. K21CA and 1 ad. 9(♀), loc. K23CA and 2 ad. 9(♀), loc. K24CA and 1 ad. 9(♀), loc. K27CA, 24.XI.1986; ibidem, 1 subad. 8(♂), 1 stad. ?, loc. K13CA and 1 ad. 9(♂), loc. K17CA and 1 juv. 6, loc. K27CA and 3 subad. 8(1 ♂, 2♀), loc. K28CA and 1 stad. ?, loc. K31CA, 9.III.1987. 15 specimens.

Ibidem, fucada, 1 ad. 9(♀), loc. K20, 30.III.1990. - In all 184 specimens.

46. *Polypauropus tchimbus* n.sp. (Figs. 243-253)

Type locality. - Brazil, Manaus, campina.
Type material. - Holotype: ad. 9(♀), locality as above, 29.II.1988, loc. K21CPA.
Paratypes: Same data as holotype, 2 ad. 9(♂, ♀). - In all 3 specimens.

Description

Length. - 0.67(-0.72) mm.

Head. - Tergal setae of short-medium lengths, subcylindrical, striate, blunt. Relative lengths of setae

(holotype only), 1st row and 3rd rows: a_1 = 10, a_2 = 11; 2nd row: a_1 = 11, a_2 = 9, a_3 = 8; 4th row: a_1 = 15, a_2 = 19, a_3 = 13, a_4 not found; lateral group: l_1 = 30, l_2 = l_3 = 16. The ratio a_1/a_1-a_1 is in 1st row 0.7, 2nd and 3rd rows 0.5 and 4th row 0.3. Temporal organs long, extended anteriorly, about twice longer than broad, 1.5 times as long as their shortest distance apart. Neither pistil nor posterior pore. Mediotergal plate with broadly V-shaped incision anteriorly and a narrow posterior end; it is twice longer than its greatest breadth. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae which are striate blunt; **p**, **p'** and **p''** somewhat clavate, densely striate, **r** cylindrical, indistinctly striate. Relative lengths of setae: **p** = 100, **p'** = 98(-102), **p''** = 86(-89), **r** = (47-)50(-51). Tergal seta **p** (1.3-)1.4 times as long as tergal branch **t**. The latter very short, narrowest at base, as long as its greatest diameter, 0.4 of the length of sternal branch **s** which is 1.2(-1.3) times as long as its greatest diameter and with its anterodistal corner truncate. Setae **q** and **q'** subcylindrical, striate, blunt; **q** as long as (-1.1) times as long as **s** and 0.7(-0.8) of the length of **q'**. Relative lengths of flagella (base segments included) and base segments: F_1 = 100, F_2 = 96(-98), F_3 = (124-)128(-131), bs_1 = bs_2 = bs_3 = 16. The F_1 (4.5-)5.0 times as long as **t**, F_2 and F_3 (1.8-)2.0 and 1.6(-2.1) times as long as **s** respectively. Distal calyces with 5 bracts, one of them furcate, surrounding an ovoid capsule with flat cap. Length of globuli of sternal branch (stalk included) 1.5 times as long as its greatest diameter and 0.7 of the length of **s**, upper globulus about twice wider than lower one. Antennae glabrous.

Trunk. - Setae of collum segment short, simple, striate, blunt, sublateral one 1.2 times as long as submedian one; sternite process short rounded; appendages small with very small 3-parted caps; process and basal part of appendages with short pubescence.

Setae on tergites short, cylindrical, striate, blunt, somewhat decreasing in length posteriorly. There are 4+4 setae on tergite I, 6+6 on II-IV, 4+4 on V and 4+2 on VI. Submedian posterior setae on VI 0.3 of their distance apart and 0.4 of the length of pygidial a_1.

Relative lengths of trichobothria: T_1 = 100, T_2 = (115-)117, T_3 = (119-)134, T_4 = 144(-149), T_5 = 145(-170). The T_1-T_4 polyramose; distal 2/3 of T_1 and T_2 with simple or furcate branches of different lengths arranged in one plane, both axes and branches with pubescence, hairs of different lengths, mainly erect; on T_3 and T_4 the branches are concentrated to the distal half and are shorter, simple, curved, with pubescence hairs longer and more oblique; T_5 with simple straight axes, pubescence longest in the middle and consisting of straight, simple, longer hairs.

Penes glabrous, 1.3 times as long as their greatest diameter, submedian sides straight, lateral ones rounded; seta about 0.5 of the length of organ.

Legs. - Setae on coxa and trochanter of legs 1-9, simple, subcylindrical, striate, blunt. Coxal seta on leg 2 in male not deviating. Tarsus of leg 9 tapering, short, glabrous, 1.8 times as long as its greatest diameter; setae subcylindrical blunt; proximal one striate, 1/4 of the length of tarsus and almost as long as distal seta which is glabrous, folioform, somewhat broader than long.

Pygidium. Tertum. - Posterior margin almost straight. Relative lengths of setae: a_1 = 100, a_2 = 142(-145), a_3 = (56-)58(-61), **st** = 225(-238), t_1 = 25. All these setae but t_1 are cylindrical, blunt; a_1 straight, striate. diverging; a_2, a_3 and **st** glabrous, curved inwards, a_3 conerging, **st** diverging; t_1 clavate with distinct oblique pubescence. Distance a_1-a_1 almost 0.5 of the length of a_1; distance a_1-a_2 2.4 times as long as distance a_2-a_3; distance **st**-**st** 1.2(-1.3) times as long as **st** and 5.3 times as long as distance a_1-a_1. Cuticle with some long pubescence hairs posterior of a_1, some shorter ones on median part of posterior margin, otherwhere minutely granular.

Sternum. - Posterior margin between t_2 straight. Relative lengths of setae (a_1 = 100): b_1 = 108(-111), b_2 = 92(-94), t_2 33(-35). The b_1 straight, cylindrical, blunt, glabrous, diverging; b_2 subcylindrical, striate, blunt; t_2 somewhat clavate, with distinct oblique pubescence, diverging. The b_1 2.2 times as long as their distance apart; b_2 0.8 of distance b_1-b_2. Anal plate represented by two ax-like appendages which are covered with long oblique pubescence; appendages 1.4 times as long as their greatest width.

Etymology. - From *tchimbe* = small (size of the process and the appendages of the collum segment), a word used by the Macú indians from the Rio Uaupés in the upper Rio Negro area.

Affinities. - The range of the genus is worldwide and 13 species have earlier been described. One of them has subcosmopolitan range, 5 belong to the Madagascar-Oriental Regions, 5 to West Africa and 2 to

Central Amazonas. The relationships are impossible to trace because in most species the collum segment has not been described and also because REMY's descriptions in general are brief, sometimes even omitting important characters.

However, the new species, *P. tchimbus*, shares more characters with the two Amazonian species, *tropicus* SCHELLER and *latebricolus* SCHELLER (SCHELLER 1994), than it does with species from other regions. The shape of the collum segment details are similar and so are the penes and the tarsi. It is closer to *latebricolus* than to *tropicus* but is easily distinguished from that species by the shape of the trichobothria (branched, not simple axes), the shape of the pygidial setae a_1 (thin and pointed, not thick cylindrical and blunt) and the anal plate (appendages ax-like, not folioform). Among the Ethiopian species it seems to be closest to *P. montaureolis* SCHELLER from Sierra Leone (SCHELLER 1995) which is alike as to the collum appendages and the collum process, the proportion of the pygidial setae a_1/a_2 and the shape of the anal plate appendages but it has also characters in common with Madagascar-Oriental species not the least the odd branched trichobothria.

Genus *Polypauropoides* REMY, 1959b

47. *Polypauropoides biclaviger* SCHELLER, 1994

Material. - Brazil, Manaus, Rio Tarumã Mirím, capoeira. 8 specimens.
Manaus, campina, 2 ad. 9(♀), 29.II.1988, loc. K14CPA. - In all 10 specimens.

48. *Polypauropoides unisetus* SCHELLER, 1994

Material. - Brazil, Manaus, Rio Tarumã Mirím, capoeira. 8 specimens.
Manaus, campina, 1 ad. 9(♀), 29.II.1988, loc. K29CPA. 1 specimen. - In all 9 specimens.

49. *Polypauropoides naous* n.sp. (Figs. 254-263)

Type locality. - Brazil, Manaus, campinarana.

Type material. - Holotype: ad. 9(♀), locality as above, 29.III.1988, loc. K32CPA.

Paratypes: Same data as holotype, 1 ad. 9(♀); ibidem, 1 ad. 9(♀), 17.VIII.1988, loc. K31CPA. 2 specimens.

Other material. - Ibidem, 1 ad. 9(♂), loc. K10CPA and 2 juv. 6, loc. K18CPA and 1 ad. 9(♂), loc. K26CPA and 1 ad. 9(♀), loc. K27CPA and 1 juv. 6, loc. K30CPA, 29.III.1988. 6 specimens.

Manaus, Rio Tarumã Mirím, capoeira, 1 ad. 9(♀), loc. K30TM and 2 ad. 9(♂, ♀), loc. K31TM, 27.VI.1983. 3 specimens. - In all 12 specimens.

Description

Length. - 0.64(-0.84) mm.

Head. - Tergal setae short, cylindrical, striate, blunt. Relative lengths of setae, 1st row: a_1 = 10, a_2 = (10-)11; 2nd row: a_1 = (10-)11(-15), a_2 = (10-)12, a_3 = 15(-23); 3rd row and 4th rows fused together: a_1 = 11(-16), a_2 = 13(-16), a_3 = 15(-20), a_4 = (14-)15, a_5 = 13(-17); lateral group: l_1 = 16(-18), l_2 = (15-)17(-18), l_3 = (15-)22. The ratio a_1/a_1-a_1 is in 1st row 0.8, 2nd row 0.5, in fused row 0.9(1.1). Temporal organs in tergal view triangular, (3.7-)4.2 times as long as their shortest distance apart; they cover lateral and laterosternal sides too and protrude each inwards on sternal side with two uplifted lobes, an anterior one which is broad and rounded and a posteriorone which is narrow. No pistil. Mediotergal plate evenly rounded anteriorly, (1.5-)1.6 times as long as its greatest breadth, posterior part very narrow.

Head cuticle glabrous.

Antennae. - Segment 4 with 6 setae. They are cylindrical, blunt; **p**, **p'** and **p''** and **u** striate, **p'''** and **r** very thin glabrous. Relative lengths of setae: **p** = 100, **p'** = 100-110, **p''** = 83-108, **p'''** = 58-70(-72, **r** = 42-50(-53), **u** = (30-)33-40(-42). Tergal seta **p** (as long as -)1.2 times as long as tergal branch **t**. The latter very short, subspherical, (0.4-)0.5 of the length of sternal branch **s** which is 1.1(-1.2) times as long as its greatest diameter and with its anterodistal corner less truncate than posterolateral one. Setae **q** and **q'** cylindrical, striate, blunt; **q** (as long as -)1.1 times as long as **s** and 1.7(-2.0) times as long as **q'**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F}_1$ = 100, $\mathbf{bs}_1$ = 16(-18); $\mathbf{F}_2$ = (103-)107(-111), $\mathbf{bs}_2$ = 17(-18); $\mathbf{F}_3$ = (96-)97, $\mathbf{bs}_3$ = 16(-18). The $\mathbf{F}_1$ 5.4(-6.0) times as long as **t**, $\mathbf{F}_2$ and $\mathbf{F}_3$ (2.6-)2.9 and (2.3-)2.6 times as long as **s** respectively. Distal calyces consisting of a central subovoid capsule from the base surronded by 6 cylindrical curved blunt bracts enclosing the capsule; 2 bracts are short, 2 are of medium length and 2 are long. Length of globuli 1.7 times as long as the organ and 0.8 of the length of **s**. Upper globulus widest, somewhat wider than greatest diameter of **t**, somewhat flattened; lower globulus longish and open. Antennae glabrous.

Trunk. - Setae of collum segment subsimilar, rudimentary, 2-segmented: base cup-shaped, distal endsegment globular. Sternite process broad and short, cleft anteriorly; appendages directed posteriorly, short, with flat 4-parted caps. Cuticle, process and basal part of appendages with short pubescence.

Setae on tergites as on median part of head. There are 4+4 setae in 2 rows on tergite I, 12 setae in 2 or 3 rows on II-V and 10 setae on VI. Submedian posterior setae on VI 0.2 of their distance apart and 0.4 of the length of pygidial $\mathbf{a}_1$.

Relative lengths of trichobothria: $\mathbf{T}_1$ = 100, $\mathbf{T}_2$ = (102-)108(-113), $\mathbf{T}_3$ = (109-)?(-116), $\mathbf{T}_4$ = 118(-127), $\mathbf{T}_5$ = 128(-154). They have simple and very thin straight axes; pubescence increasing in length outwards from short straight oblique hairs to long curved manybranched hairs arranged in whorls in distal 2/3; longest at least 0.2 of the length of trichobothrium; shortest hairs on $\mathbf{T}_5$.

Penes not available for study.

Legs. - Setae on coxa of leg 9, simple, cylindrical, striate, blunt, those on trochanter of legs 1-9 and coxae of legs 1-8 similar but furcate with secondary branches rudimentary glabrous. Tarsus of leg 9 short, thick, tapering, (2.2-)2.5 times as long as its greatest diameter. Proximal seta inserted outside the middle of tarsus, very short, cylindrical, striate, blunt, its length 0.1 of the length of tarsus and 0.4 of the length of distal seta which is folioform, somewhat broader than long, densely pubescent.

Pygidium. Tergum. - Posterior margin evenly rounded. Relative lengths of setae: $\mathbf{a}_1$ = 100, $\mathbf{a}_2$ = (90-)109, $\mathbf{a}_3$ = (473-)491, **st** = (145-)164. They are cylindrical, striate, blunt, curved inwards; $\mathbf{a}_1$ converging, $\mathbf{a}_2$ and $\mathbf{a}_3$ diverging, **st** directed posteriorly. Distance $\mathbf{a}_1$-$\mathbf{a}_1$ (2.4-)2.7 times as long as $\mathbf{a}_1$; distance $\mathbf{a}_1$-$\mathbf{a}_2$ ≈ 3 times longer than distance $\mathbf{a}_2$-$\mathbf{a}_3$; distance **st**-**st** 1.9(-2.1) times as long as **st** and 1.1(-1.4) times as long as distance $\mathbf{a}_1$-$\mathbf{a}_1$. Cuticle with dense erect pubescence most posteriorly.

Sternum. - Posterior margin with deep median triangular indentation continuing forwards as a furrow in the cuticle passing the middle of the sternum; posterolateral corners evenly rounded. Relative lengths of setae ($\mathbf{a}_1$ = 100): $\mathbf{b}_1$ = (118-)136, $\mathbf{b}_2$ = 82(-91). These setae are almost straight, subcylindrical, densely striate, blunt, diverging. The $\mathbf{b}_1$ (3.4-)3.5(-3.6) times as long as their shortest distance apart; $\mathbf{b}_2$ (0.5-)0.6 of distance $\mathbf{b}_1$-$\mathbf{b}_2$. Anal plate represented by two submedian, somewhat clavate, densely striate appendages with subglobular short pubescent ends. Sternum glabrous.

Etymology. - From *náo* = pretty, beautiful (branched trichobothria, basal antennal globulus), a word used by the Macú indians from the Rio Uaupés in the upper Rio Negro area.

Affinities. - Owing to the varying quality of the earlier descriptions the relationships of the species are impossible to trace. In some species nothing or very little is known about the morphology of the collum segment, the number and distribution of the setae of the tergites and the shape of the temporal organs. However, the new species is well defined by the following combination of characters: the open shape of the basal antennal globulus, the broadly spatulate proximal seta on the tarsi, the deep posteromedian cleft of the pygidial sternum and the setiform anal plate appendages.

50. *Polypauropoides foliolus* n.sp. (Figs. 264-274)

Type locality. - Brazil, Manaus, campinarana.

Type material. - Holotype: ad. 9(♂), locality as above, 29.III.1988, loc. K11CPA.

Paratype: Ibidem, 1 ad. 9(♂), 29.III.1988, loc. K14CPA.

Other material. - Manaus, Rio Tarumã Mirím, capoeira, 2 juv. 6, loc. K15TM and 1 ad. 9(♂), loc. K18TM and 1 ad. 9(sex ?), loc. K19TM, 29.IX.1982; ibidem, 2 ad. 9(♂, ♀), 23.XI.1982, loc. K32TM; 1 ad. 9(♂), 28.III.1983, loc. K31TM, ibidem, 1 ad. 9(♂), 27.VI.1983, loc. K27TM. 8 specimens. - In all 10 specimens.

Description

Length. - (0.57-)0.58 mm.

Head. - Tergal setae striate blunt; median setae subcylindrical, sublateral and lateral ones cylindrical; they are of short-median lengths, anterior ones shorter than posterior ones. Relative lengths of setae, 1st row: $\mathbf{a}_1$ = 10, $\mathbf{a}_2$ = (11); 2nd row: $\mathbf{a}_1$ = 12(13), $\mathbf{a}_2$ = (11)12, $\mathbf{a}_3$ = 17; 3rd row and 4th rows fused together: $\mathbf{a}_1$ = (15)16, $\mathbf{a}_2$ = (13)17, $\mathbf{a}_3$ = (18)≈ 19, $\mathbf{a}_4$ = (15)18, $\mathbf{a}_5$ = 20(22); lateral group: $\mathbf{l}_1$ = (16)19, $\mathbf{l}_2$ = (13)15, $\mathbf{l}_3$ = 16(17). The ratio $\mathbf{a}_1$/$\mathbf{a}_1$-$\mathbf{a}_1$ is in 1st row 1.1, 2nd row 0.5, in fused row 0.9(1.0). The median part of the fused row is atypical with a median seta inserted posterior of the mediotergal plate. Temporal organs in tergal view triangular, submedian corner rounded, their length (1.7)2.1 times as long as their shortest distance apart. They cover lateral and laterosternal sides too and protrude each inwards on sternal side with two subsimilar lobes of which the anterior one may be lifted up from head surface. No pistil; posterior margin with shallow indention at $\mathbf{l}_1$ but pore not found. Mediotergal plate 1.8(2.1) times as long as its greatest breadth, spatulate, anterior margin evenly rounded, posterior part narrow. Head cuticle glabrous.

Antennae. - Segment 4 with 5 setae. They are cylindrical, striate, blunt; **p'''** very thin. Relative lengths of setae: **p** = 100, **p'** = (91)100, **p''** = 110, **p'''** = 83, **r** = 40(45). No **u**. Tergal seta **p** as long as (1.3) times as long as tergal branch **t**. The latter very short, narrowest proximally, about as wide as long, (0.4)0.5 of the length of sternal branch **s** which is 1.5 times as long as its greatest diameter and with its anterodistal corner distinctly truncate. Setae **q** and **q'** cylindrical, striate, blunt, **q** about as long as **s** and 1.6 times as long as **q'**. Lengths of flagella (base segments included) and base segments: $\mathbf{F}_1$ = 100, $\mathbf{bs}_1$ = 15; $\mathbf{F}_2$ = (85), $\mathbf{bs}_2$ = 15; $\mathbf{F}_3$ = 104(136), $\mathbf{bs}_3$ = 15(17). The $\mathbf{F}_1$ 5.0(-6.5) times as long as **t**, $\mathbf{F}_2$ and $\mathbf{F}_3$ (2.0)2.2 and 2.5(2.7) times as long as **s** respectively. Distal calyces consisting of a central capsule with a subhemispherical top, all surrounded by 3 curved bracts, a longer forked one and two shorter. Length of globuli of sternal branch 1.7(1.8) times as long as the organ and almost as long as **s**; upper globulus very large with 10 bracts, lower globulus small with 4 bracts; capsules flattened; diameter of upper globulus (1.2)1.3 times as wide as greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment subsimilar, short, cylindrical, striate, blunt; sternite process small, glabrous, anteriorly narrow; appendages subconical, very shortly pubescent, with stalked hemispherical caps.

Setae on tergites short, cylindrical, blunt, with short oblique pubescence; There are 4+4 setae in 2 rows on tergite I, 12 setae on II-IV, 10 setae on V and 6+2 on VI. Submedian posterior setae on VI 0.4 of their distance apart and 0.5 of the length of pygidial $\mathbf{a}_1$.

Relative lengths of trichobothria (holotype only): $\mathbf{T}_1$ = 100, $\mathbf{T}_2$ = $\mathbf{T}_4$ = 108, $\mathbf{T}_3$ = 104, $\mathbf{T}_5$ = 115. They are polyramose with branches arranged in one plane; branches simple and with dense short pubescence of simple straight hairs. There are 14-23 branches, longest in the middle, there 0.2-0.3 of the length of trichobothrium.

Penes very short, rounded, about as wide as long, glabrous; seta 0.7 of the length of organ.

Legs. - Setae on coxa and trochanter of legs 1-9 simple but with rudiments of secondary branches on coxal setae in leg 2 in male; in leg 9 setae of trochanter are twice longer than those on coxa. Tarsus of leg 9 subcylindrical, 2.3(2.4) times as long as its greatest diameter; one seta only, the distal one which is foliate, broader than long, with dense very short pubescence, its length 0.2 of the length of tarsus.

Pygidium. Tergum. - Posterior margin evenly rounded. Relative lengths of setae: $\mathbf{a}_1$ = 100, $\mathbf{a}_2$ = 87(98),

a_3 = (420)442. The **st** not identified. The a_1 tapering, with short oblique pubescence, curved inwards and converging, a_2 cylindrical, straight, indistinctly striate, diverging, a_3 subcylindricl, almost glabrous, curved inwards, diverging. Distance a_1-a_1 1.7 times as long as a_1; distance a_1-a_2 about twice longer than distance a_2-a_3. Cuticle with distinct erect pubescence.

Sternum. - Posterior margin between b_1 almost straight; distinct posterior lobes around b_1. Relative lengths of setae (a_1 = 100): b_1 = (140)183, b_2 = 33(50). The b_1 somewhat curved inwards, 0.5(0.6) of their distance apart, b_2 cylindrical, blunt, curved inwards 0.3(0.4) of distance b_1-b_2, b_2 0.4 of distance b_1-b_2. Anal plate represented by two claviform, submedian appendages with long oblique pubescence; they are almost 0.5 of the length of b_1. Cuticula of sternum not studied.

Etymology. - From Latin *foliolum*, dim. of *folium* = leaf (distal seta of tarsus).

Affinities. - The new species has characters in common with *P. unisetus* SCHELLER from Tarumã Mirím (SCHELLER 1994) e.g. in the collum segment, the branched trichobothria and the absence of the proximal seta on the tarsi. Good distinguishing characters are the absence of the pygidial **st**, the greater number of branches on the trichobothria and the broadly foliform shape of the distal tarsal setae.

51. *Polypauropoides monosetosus* n.sp. (Figs. 275-285)

Type locality. - Brazil, Manaus, campina.

Type material. - Holotype: ad. 9(♂), locality as above, 29.II.1988, loc. K14CPA.

Paratypes: Same data as holotype, 1 ad. 9(♀), 1 juv. 6; ibidem, 1 ad. 9(♀), loc. K17CPA and 1 ad. 9(♀), loc. K31CPA, 29.II.1988. 4 specimens.

Other material. - Ibidem, 1 ad. 9(♂), 29.II.1988, loc. K28CPA. 1 specimen. - In all 6 specimens.

Description

Length. - (0.63-)0.69(-0.82) mm.

Head. - Anterior setae somewhat clavate, annulate, blunt; posterior and lateral setae subcylindrical-cylindrical, striate, blunt. Relative lengths of setae, 1st row: a_1 = 10, a_2 = 8(-11); 2nd row: a_1 = 10(-12), a_2 = 8(-11), a_3 = 12(-16); fused 3rd and 4th rows: a_1 = a_2 = 10(-11), a_3 = 12(-13), a_4 = ?(-11), a_5 = (15-)16); lateral group: l_1 = l_2 = 14(-15), l_3 = 12(-14). The ratio a_1/a_1-a_1 (holotype only) is in 1st row and fused rows 1.0, 2nd row 0.6. Temporal organs in tergal view equilaterally triangular, length 2.0(-2.8) times as long as their shortest distance apart. They cover lateral and laterosternal sides too and protrude each inwards and anteriorly on sternal side with one linguiform appendage which may be lifted up from head surface. No pistil; posterior pore not studied. Mediotergal plate spatulate, 1.7(2.0) times as long as its greatest breadth, anterior margin evenly rounded, posterior part narrow. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae. They are cylindrical, blunt; **p** and **p'** thickest, distinctly striate, **p''** and **r** thin and striate. Relative lengths of setae: **p** = 100, **p'** = 82(-91), **p''** = 67(-73), **r** = 33(-36). Neither **p'''** nor **u**. Tergal seta **p** (0.9-)1.2(-1.3) times as long as tergal branch **t**. The latter very short, its length (0.9-)1.2 times as long as its greatest diameter, 0.4(-0.5) of the length of sternal branch **s** which is (1.1-)1.5 times as long as its greatest diameter and with its anterodistal corner distinctly more truncate than posterodistal one. Setae **q** and **q'** cylindrical, striate, blunt, both inserted on distal 1/3 of branch, the former 0.4(-0.6) of the length of **s** and 0.5(-0.7) of the length of **q'**. Relative lengths of flagella (base segments included) and base segments: F_1 = 100, bs_1 = 17(-18); F_2 = (85-)90, bs_2 = 21; F_3 = (88-)107(-111), bs_3 = 21(-23). The F_1 (5.1-)6.0(-6.5) times as long as **t**, F_2 and F_3 (1.9-)2.2 and (2.3-)2.6 times as long as **s** respectively. Distal calyces with subovoid capsules and 4 bracts, 2 as long as capsule and 2 longer ones curved over the capsule. Length of globuli of sternal branch (1.7-)2.0 times as long as the organ and almost as long as **s**; upper globulus widest, as wide as greatest diameter of **t**. Antennae glabrous.

Trunk. - Setae of collum segment short, with oblique base, 2-3 annules and a distal cap; sublateral seta (1.1-)1.3(-1.4) times as long as submedian one; sternite process with V-shaped anterior incision, granular; appendages proportionately large with flattened caps, bases granular.

Setae on tergites cylindrical, striate, blunt, decreasing in length posteriorly. There are 4+4 setae on

tergite I, 6+2 on II, 6+? on III-V, 6+4 on V and 4+2 on VI. Submedian posterior setae on VI 0.2(-0.3) of their distance apart and 0.7 of the length of pygidial a_1. Anterior tergites distinctly granular.

Relative lengths of trichobothria: T_1 = 100, T_2 = 102(-104), T_3 = (100-)111, T_4 = (109-)110(-116), T_5 = 122(-130). They have simple and very thin straight axes; proximal 2/5 of T_1-T_4 and proximal 1/3 of T_5 with simple oblique hairs increasing in length outwards; for the rest they have long bifurcate branches covered with short oblique pubescence; branches longest on T_1, T_2 and T_4.

Penes very short, conical, with somewhat rounded sides, glabrous, length 0.8 of their greatest diameter; seta ≈ 0.3 of the length of organ.

Legs. - Setae on coxa and trochanter of legs 1-9 simple, cylindrical, striate, blunt, those of trochanter longest. Coxal setae in leg 2 in male short, somewhat clavate, annulate. Tarsus of leg 9 short, tapering, 2.1 times as long as its greatest diameter, minutely pubescent; one seta only which is inserted at a point 0.4 of the length of tarsus from distal end; seta tapering, curved, almost 0.2 of the length of tarsus.

Pygidium. Tergum. - Posterior margin rounded. Relative lengths of setae: a_1 = 10, a_2 = (10-)12(-13), a_3 = (53-)67, **st** = (17-)23. These setae are cylindrical, striate, blunt; a_1 and **st** curved inwards and converging, a_2 straight and diverging, a_3 long, thick, curved inwards, diverging. Distance a_1-a_1 (3.2-)3.7 times as long as a_1; distance a_1-a_2 (3.0-)5.0 times longer than distance a_2-a_3; distance **st**-**st** 2.1(-2.5) times as long as **st** and (1.2-)1.3 times as long as distance a_1-a_1. Cuticle with short but distinct pubescence.

Sternum. - Posterior margin between b_1 with a deep broadly V-shaped cleft; posterolateral corners large and rounded. Relative lengths of setae (a_1 = 10): b_1 = (14-)17, b_2 = 10. These setae somewhat clavate and curved inwards, b_2 diverging. The b_1 are 0.3 of their distance apart, b_2 0.4 of distance b_1-b_2. Anal plate represented by two lamelliform, densely pubescent setae which are (7.5-)7.7 times as long as broad and are projecting backwards from the anterior part of the median cleft. Posterior lobes faintly pubescent, sternum more anteriorly glabrous.

Etymology. - From Greek *monos* = one, single, and Latin *seta* = bristle (tarsus).

Affinities. - *P. monosetosus* is easily distinguished from all other *Polypauropoides* species known by the shape of the setae and appendages of the collum segment, the trichobothria and the anal plate. It has some characters in common with *cuneatus* described below but the above mentioned characteristics are separating.

52. *Polypauropoides cuneatus* n.sp. (Figs. 286-294)

Type locality. - Brazil, Manaus, campinarana.

Type material. - Holotype: ad. 9(♀), locality as above, 29.III.1988, loc. K21CPA.

Other material. - Manaus, fucada, 1 juv. 6, 30.III.1990, loc. K11. - In all 2 specimens.

Description

Length. - 0.82 mm.

Head. - Anterior setae somewhat shorter than posterolateral ones, they are subcylindrical-cylindrical, striate, blunt. Relative lengths of setae, 1st row: a_1 = a_2 = 100; 2nd row: a_1 = 12, a_2 = 10, a_3 = 14; 3rd row and 4th rows fused together: a_1 = a_4 = 12, a_2 = 13, a_3 = 15, a_5 = 16; lateral group: l_1 = 16, l_2 = 14, l_3 = 12. The ratio a_1/a_1-a_1 is in 1st row 0.9, 2nd row 0.6, in fused row 0.7. Temporal organs in tergal view triangular, 2.1 times as long as their shortest distance apart; they cover lateral and laterosternal sides too and protrude inwards on sternal side each with a narrow anteriorly directed lobe the distal part of which is lifted up from the head cuticle. No pistil. Mediotergal plate evenly rounded anteriorly, very broad anterior half, posterior half very narrow, plate 1.3 times as broad as its greatest breadth. Head cuticle glabrous.

Antennae. - Segment 4 with 6 setae. They are cylindrical, blunt; **p**, **p'** and **p''** striate, **p'''**, **r** and **u** glabrous. Relative lengths of setae: **p** = **p''** = 100, **p'** = 109, **p'''** = **u** = 36, **r** = 27. Tergal seta **p** 0.9 of the length of tergal branch **t**. The latter very short, 1.1 times as long as its greatest diameter, 0.4 of the length of sternal branch **s** which is 1.4 times as long as its greatest diameter and with its anterodistal corner much

more truncate than posterodistal one. Setae **q** and **q'** both inserted about 1/3 from distal end of **s**; they are cylindrical, blunt, **q** annulate, **q'** densely striate; the former 0.5 of the length of **s** and **q'**. Relative lengths of flagella (base segments included) and base segments: $\mathbf{F_1}$ = 100, $\mathbf{bs_1}$ = 16; $\mathbf{F_2}$ = ?, $\mathbf{bs_2}$ = 13; $\mathbf{F_3}$ = 117, $\mathbf{bs_3}$ = 16. The $\mathbf{F_1}$ 5 times longer than **t**, $\mathbf{F_3}$ 2.5 times as long as **s**. Distal calyces with subovoid capsule with small flattened cap surrounded by 6 cylindrical bracts which are curved inwards enclosing the capsule: 2 bracts are short, 2 of medium length and 2 are long. Length of globuli 1.7 times as long as the organ and 0.7 of the length of **s**. Upper globulus widest, 1.1 times as wide as greatest diameter of **t**, 11 bracts; lower globulus much smaller, 4 or 5 bracts. Antennae glabrous.

Trunk. - Setae of collum segment subsimilar in size and shape, short, simple, somewhat clavate, annulate, blunt; sternite process short, blunt, with distinct pubescence most anteriorly; appendages directed downwards, caps large 4-parted.

Relative lengths of trichobothria: $\mathbf{T_1}$ = 100, $\mathbf{T_2}$ = 90, $\mathbf{T_3}$ = 87, $\mathbf{T_4}$ = 97, $\mathbf{T_5}$ = 108. They are polyramose with branches arranged in one plane; branches longest in distal half of trichobothrium, 12-16 branches, shortest and most numerous on $\mathbf{T_3}$ and $\mathbf{T_5}$; branches and main axes with dense short mainly erect pubescence.

Legs. - Setae on coxa and trochanter of leg 9, simple, cylindrical, blunt, those on trochanter longest and striate, those on coxa densely annulate with distinct subhemispherical end-segment. More anteriorly these setae are simple too but with rudiments of secondary branches. Tarsus of leg 9 somewhat tapering, curved, 2.6 times as long as its greatest diameter, with dense short pubescence; proximal seta cylindrical, 0.2 of the length of tarsus and 0.7 of the length of distal subcylindrical seta.

Pygidium. Tergum. - Posterior margin rounded. Relative lengths of setae: $\mathbf{a_1}$ = 100, $\mathbf{a_2}$ = 112, $\mathbf{a_3}$ = 644, **st** = 93. They are cylindrical, striate, $\mathbf{a_1}$ straight, $\mathbf{a_2}$, $\mathbf{a_3}$ and **st** curved inwards, $\mathbf{a_1}$, $\mathbf{a_2}$ and $\mathbf{a_3}$ diverging, **st** converging. Distance $\mathbf{a_1}$-$\mathbf{a_1}$ 4.9 times as long as $\mathbf{a_1}$; distance $\mathbf{a_1}$-$\mathbf{a_2}$ 4.4 times as long as distance $\mathbf{a_2}$-$\mathbf{a_3}$; distance **st**-**st** 2.1 times as long as **st** and 0.7 of distance $\mathbf{a_1}$-$\mathbf{a_1}$. Cuticle with sparse short pubescence.

Sternum. - Posterior margin between $\mathbf{b_1}$ with broad shallow indention, posterolateral corners large rounded. Relative lengths of setae ($\mathbf{a_1}$ = 100): $\mathbf{b_1}$ = 134, $\mathbf{b_2}$ = 83. These setae are cylindrical, striate, blunt, curved inwards and somewhat diverging. The $\mathbf{b_1}$ 0.3 of their distance apart; $\mathbf{b_2}$ 0.3 of distance $\mathbf{b_1}$-$\mathbf{b_2}$. Anal plate represented by two submedian, cuneiform, straight appendages covered by a dense pubescence of short oblique hairs arranged in transverse rows; appendages about twice longer than broad. Sternum with distinct erect pubescence most posteriorly, more anteriorly faintly granular-glabrous.

Etymology. - From Latin *cuneus* = wedge (anal plate).

Affinities. - *P. cuneatus* is easily distinguished from all other species known by the shape of the tarsus, the singular shape of the anal plate and the short pygidial setae $\mathbf{b_2}$. Among the species described from Central Amazonas it may be most close to *unisetus* SCHELLER (the shape of the trichobothria, the setae on coxa and trochanter, the setae of the pygidial tergum) and *naous* described above (the setae of the 4th antennal segment, the setae on coxa and trochanter and the setae of the pygidial tergum).

Discussion

The composition of the Pauropoda fauna of Central Amazonia deviate, as far as it is known at present, in some respects from other tropical faunas in the absence of Brachypauropodidae and Eurypauropodidae and some widespread genera in Pauropodidae.

Acknowledgments

The author is indebted especially to PD Dr. W.J. Junk and PD Dr. J. Adis, Tropical Ecology Working Group, Max-Planck-Institut für Limnologie, Plön. Sincere thanks are expressed to the former for monetary support from the Max-Planck-Society and to the latter for many years intense work in the field and for valuable comments and help received regarding manuscript format. Special thanks are due to Mrs. Irmgard Adis and the technical assistent of Dr. Adis Miss Berit Hansen who both have aided in many ways.

References

ADIS, J. (1987): Extraction of Arthropods from neotropical soils with a modified Kempson soil apparatus. - J. trop. Ecol. **3**: 131-138.

ADIS, J. & H.O.R. SCHUBART (1984): Ecological research on arthropods in Central Amazonian forest ecosystems with recommendations for study procedures. - In: GOLLEY, J.H. & F.B. GOLLEY (eds.): Trends in Ecological Research for the 1980s. NATO Conference Series, Ser. I, Ecology. Plenum Press, New York, London, 1984.

ADIS, J. & M.O.A. RIBEIRO (1989): Impact of deforestation on soil invertebrates from Central Amazonian inundation forests and their survival strategies to long-term flooding. - Water Quality Bull. **14**(2): 88-98.

ADIS, J. & G. RIGHI (1989): Mass migration and life cycle adaptation - a survival strategy of terrestrial earthworms in Central Amazonian inundation forests. - Amazoniana **11**: 23-30.

ADIS, J. & V. MAHNERT (1993): Vertical distribution and abundance of pseudoscorpions (Arachnida) in the soil of two different neotropical primary forests during the dry and rainy seasons. - Mem. Queensl. Mus. **33**(2): 431-440.

ADIS, J., MORAIS, J.W. DE & U. SCHELLER (1996): On abundance, phenology and natural history of Symphyla from a mixedwater inundation forest in Central Amazonia, Brazil. - In: GEOFFROY, J.-J., MAURIÈS, J.-P. & M. NGUYEN DUY-JACQUEMIN (eds.): Acta Myriapodologica. - Mém. Mus. natn. Hist. nat. **169**: 607-616.

CHAUVEL, A., LUCAS, Y. & R. BOULET (1987): On the genesis of the soil mantle of the region of Manaus, Central Amazonia, Brazil. - Experientia **43**: 234-241.

GUILLAUMET, J.-L. (1987): The dynamic of the Amazonian terra-firme forest: Some structural and floristic aspects of the forest. - Experientia **43**: 241-251.

HAGINO, Y. (1993): A new species of the genus *Allopauropus* (Pauropoda, Pauropodidae) from the Boso Peninsula, Central Japan. - Nat. Hist. Res. **2**: 175-177.

HÜTHER, W. (1968): Erstnachweis der Pauropoda Hexamerocerata für Südamerika, mit Beschreibung einer neuen Art. - Rev. Écol. Biol. Sol. **3**: 561-567.

HÜTHER, W. (1985): Verbreitung und Vorkommen einiger Pauropodenarten im brasilianischen Amazonas-Gebiet. - Bijdr. Dierk. **55**(1): 95-99.

KEMPSON, D.L., LOYD, M. & R. GHELARDI (1963): A new extractor for woodland litter. - Pedobiologia **3**: 1-121.

KLINGE, H., FURCH, K. & E. HARMS (1984): Selected bioelements in bark and wood of native tree species from Central-Amazonian inundation forests. - Amazoniana **11**: 105-117.

MÉRONA, B. DE (1993): Conditions écologiques de la production dans une île de plaine inondée d'Amazonie centrale, un project multidisciplinaire. - Amazoniana **12**: 353-363.

PRANCE, G.T. (1979): Notes on the vegetation of Amazonia III. The terminology of Amazonian forest types subject to inundation. - Brittonia **31**(1): 26-38.

PRANCE, G.T. (1980): A terminologia dos tipos de florestas amazônicas sujeitas a inundação. - Acta Amazonica **10**(3): 495-504.

REMY, P.A. (1932): Un pauropode de Banyuls-sur-Mer type d'une famille nouvelle: *Polypauropus duboscqi* nov. gen., nov. sp. - Archs. Zool. exp. gén. **74**: 287-303.
REMY, P.A. (1947): Liste de pauropodes d'Algerie, avec description de formes nouvelles. - Bull. Soc. Sci. Nancy, n. Sér. **6**: 66-84.
REMY, P.A. (1948a): Pauropodes d'Afrique orientale britannique. - Proc. zool. Soc. Lond. **118**: 568-574.
REMY, P.A. (1948b): Pauropodes de la Côte d'Ivoire, Afrique occidentale française. - Mém. Mus. natn. Hist. nat., n. Sér. **27**: 115-151.
REMY, P.A. (1950): Les *Millotauropus*, types d'un nouveau groupe de Pauropodes. - C. r. Séanc. Acad. Sci. **230**: 472-474.
REMY, P.A. (1952a): Diagnose de quelques Pauropodes algériens. - Bull. Mus. Hist. nat. Paris (2)**24**: 80-86.
REMY, P.A. (1952b): Contribution à la faune endogée du Sahara. Pauropodes. - Bull. Soc. zool. Fr. **77**: 51-61.
REMY, P.A. (1953): Description de nouveau types de pauropodes: "*Millotauropus*" et "*Rabaudauropus*". - Mém. Inst. Scient. Madagascar (A) **8**: 25-41.
REMY, P.A. (1954): "*Allopauropus bounourei*" pauropode nouveau du Cameroun. - Archs Anat. Histol. Embryol. **37**: 131-134.
REMY, P.A. (1955): Pauropode de l'Angola. - Publ. cult. Comp. Diam. Angola **24**: 117-134.
REMY, P.A. (1956a): Sur quelques pauropodes de Nouvelle-Zélande. - Bull. Mus. Hist. nat. Paris (2)**28**: 213-217.
REMY, P.A. (1956b): Pauropodes de Madagascar. - Mém. Inst. scient. Madagascar (A) **10**: 101-229.
REMY, P.A. (1956c): Pauropodes des États-Unis d'Amérique. - Mém. Soc. natn. Sci. nat. math. Cherbourg **47**: 1-48.
REMY, P.A. (1957a): Pauropodes des États-Unis (Tennessee, North Carolina). - Revue fr. Ent. **24**: 82-87.
REMY, P.A. (1957b): Addition à la faune pauropodienne de Côte d'Ivoire. - Bull. Inst. fr. Afr. noire A **3**: 751-762.
REMY, P.A. (1957c): Pauropodes de Mexique méridional. - Bull. Soc. Sci. Nancy, n. Sér. **16**: 135-139.
REMY, P.A. (1957d): Pauropoda. In: Insects of Micronesia. - Ed. Bernice P. Bishop Museum **4**(1): 1-12.
REMY, P.A. (1958): Pauropodes des États-Unis d'Amérique et de la Jamaïque. - Mém. Soc. natn. Sci. nat. math. Cherbourg **48**: 1-77.
REMY, P.A. (1959a): Pauropodes des monts Nimba (Guinée). - Bull. Inst. fr. Afr. noire A **21**(3): 1009-1020.
REMY, P.A. (1959b): Pauropodes de l'île Maurice. - Bull. Mauritius Inst. **5**(5): 149-194.
REMY, P.A. (1960a): Symphyles et pauropodes des alluvions de rivières lorraines. - Bull. Soc. Sci. Nancy, n. Sér. **19**: 9-18.
REMY, P.A. (1960b): Pauropodes récoltés par l'expedition du Ruwenzori en 1952. - Revue fr. Ent. **27**: 306-313.
REMY, P.A. (1961): Pauropodes de la region de Pondichéry (Inde). - Mém. Soc. natn. Sci. nat. math. Cherbourg **48**: 1-24.
REMY, P.A. (1962a): Nouvelle contribution à la microfaune du sol. - Bull. Soc. Lorr. Sci. **1**: 21-27.
REMY, P.A. (1962b): Pauropodes Sud-Américains. - Biol. l'Amér. austr. **1**: 49-61.
REMY, P.A. & A.-M. BALLAND (1957): Pauropodes de France méridionale. - Revue fr. Ent. **24**: 396-409.
REMY, P.A. & G. BITTARD (1956): Contribution à l'étude des pauropodes malgaches. - Mém. Inst. scient. Madagascar (A) **11**: 111-126.
REMY, P.A. & J. MOYNE (1960): Pauropodes du Maroc. - Bull. Soc. Sci. nat. phys. Maroc **39**: 65-81.
RIBEIRO, M. DE N.G. & J. ADIS (1984): Local rainfall variability - a potential bias for bioecological studies in the Central Amazon. - Acta Amazonica **14**: 159-174.
SCHELLER, U. (1968): Chilean and Argentinian Pauropoda. - Biol. l'Amér. austr. **4**: 275-306.
SCHELLER, U. (1970): The Pauropoda of Ceylon. - Ent. scand. Suppl. **1**: 5-97.

SCHELLER, U. (1975): Contribution to the knowledge of the Angolan Pauropoda (Myriapoda). - Publ. cult. Comp. Diam. Angola **89**: 61-102.
SCHELLER, U. (1982): Pauropoda (Myriapoda) from the Seychelles. - Ent. scand. **13**: 245-265.
SCHELLER, U. (1983): Pauropoda (Myriapoda) from Canada. - Can. J. Zool. **62**: 2074-2091.
SCHELLER, U. (1994): Pauropoda of a secondary forest near the Tarumã Mirím River, Amazonas, Brazil (Myriapoda, Pauropoda, Pauropodidae). - Amazoniana **13**: 65-130.
SCHELLER, U. (1995): First record of Pauropoda (Myriapoda) from Sierra Leone. - Ent. scand. Suppl. **47**: 1-53.
SIOLI, H. (1956): Über Natur und Mensch im brasilianischen Amazonasgebiet. - Erdkunde **10**(2): 89-109.
SILVESTRI, F. (1902): Ordo Pauropoda. - In: BERLESE, A.: Acari, Myriopoda et Scorpiones hucusque in Italia reperta, **10**. Padua.
WOLF, H.G. & J. ADIS (1992): Genetic differentiation between populations of *Neomachilellus scandens* inhabiting neighbouring forests in Central Amazonia (Insecta, Archaeognatha). - Verh. naturwiss. Ver. Hamburg (NF) **33**: 5-13.

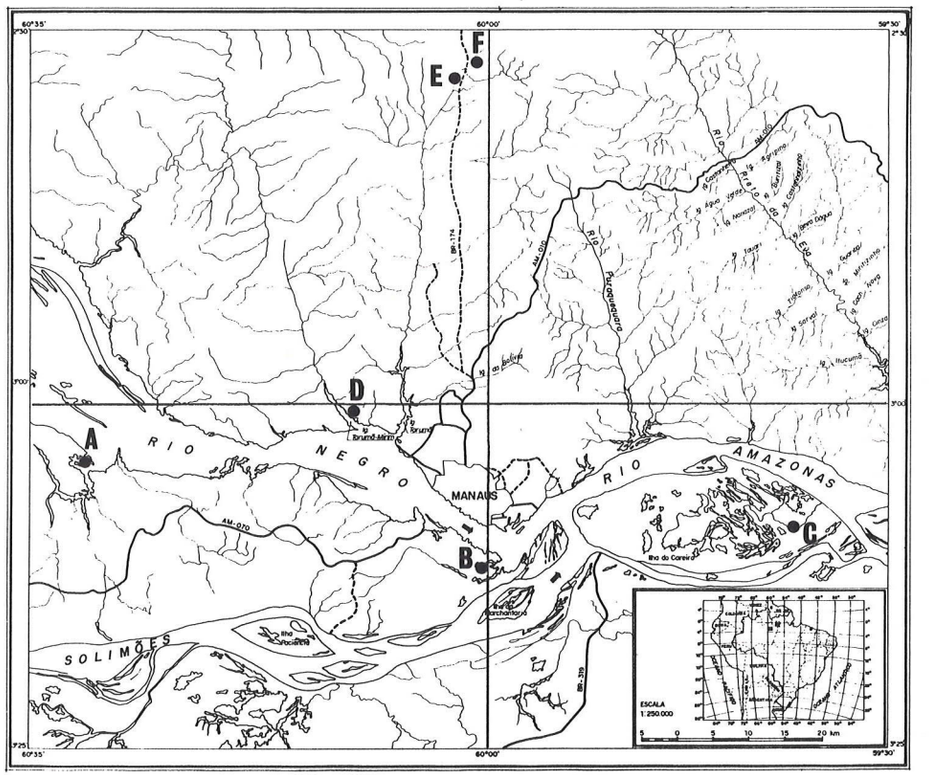
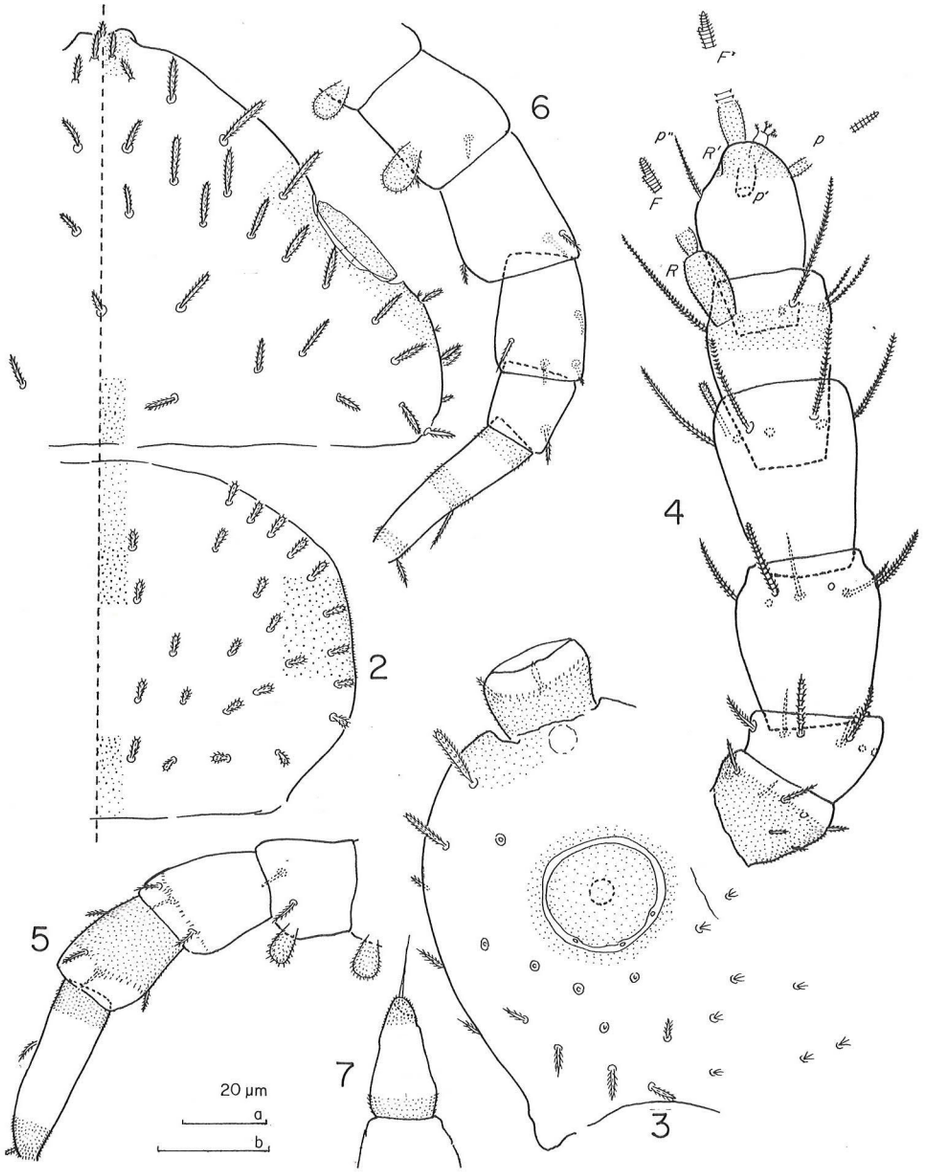
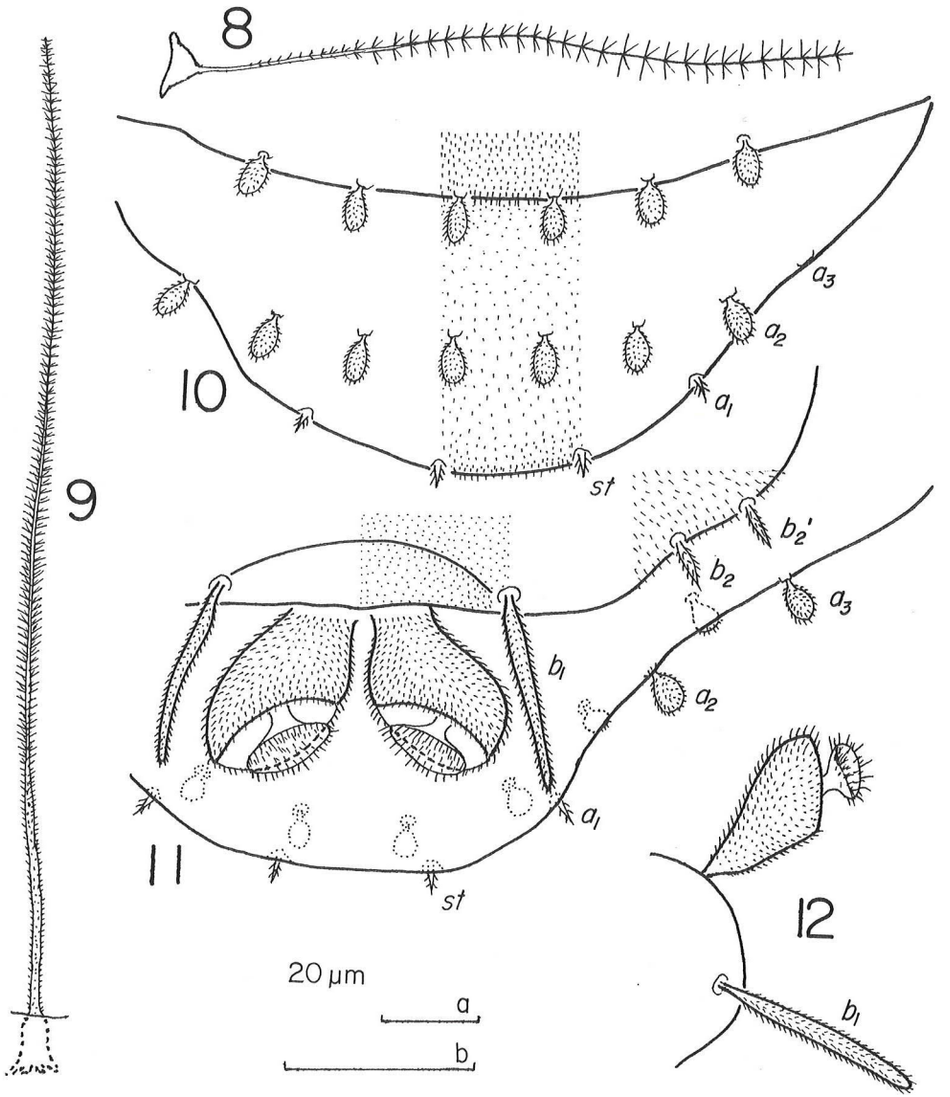


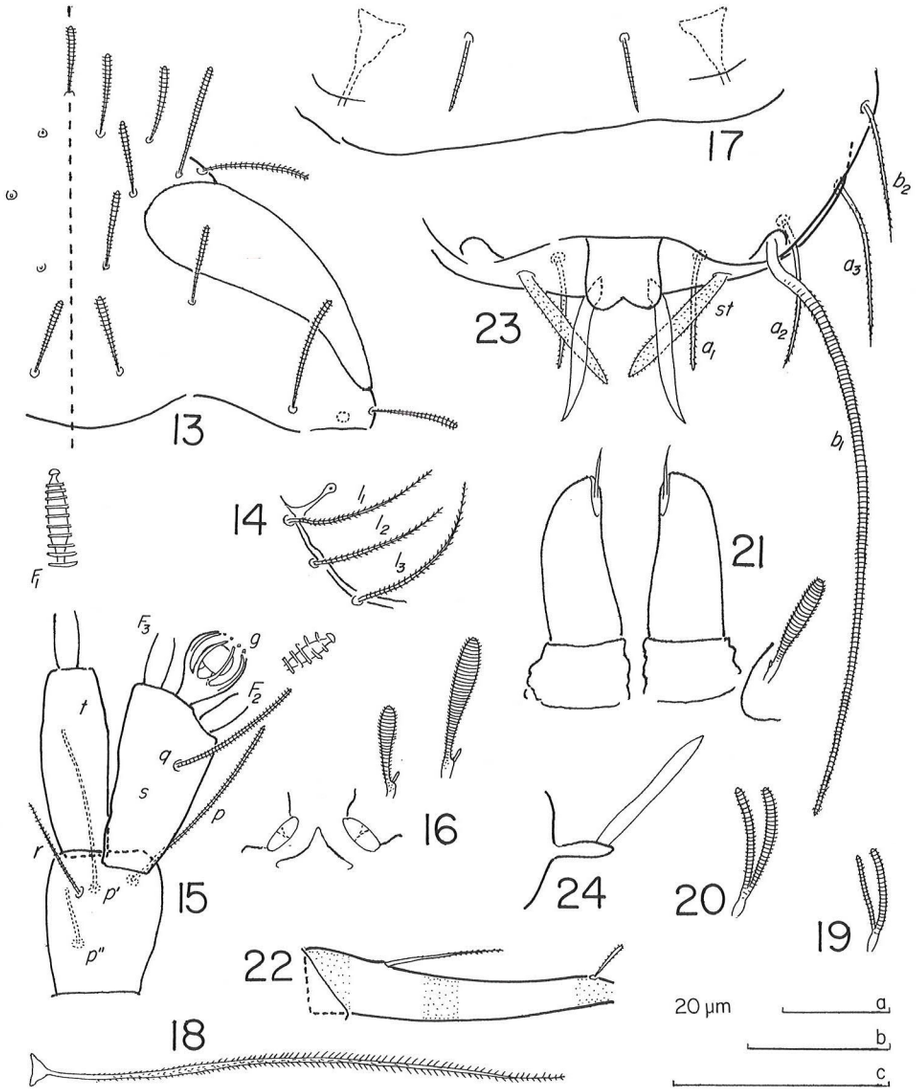
Fig. 1:
Investigated areas: **A**: Praja Grande; **B**: Lago Janauarí; **C**: Careiro Island; **D**: Rio Tarumã Mirím; **E**: Fucada; **F**: Campina & Campinarana.



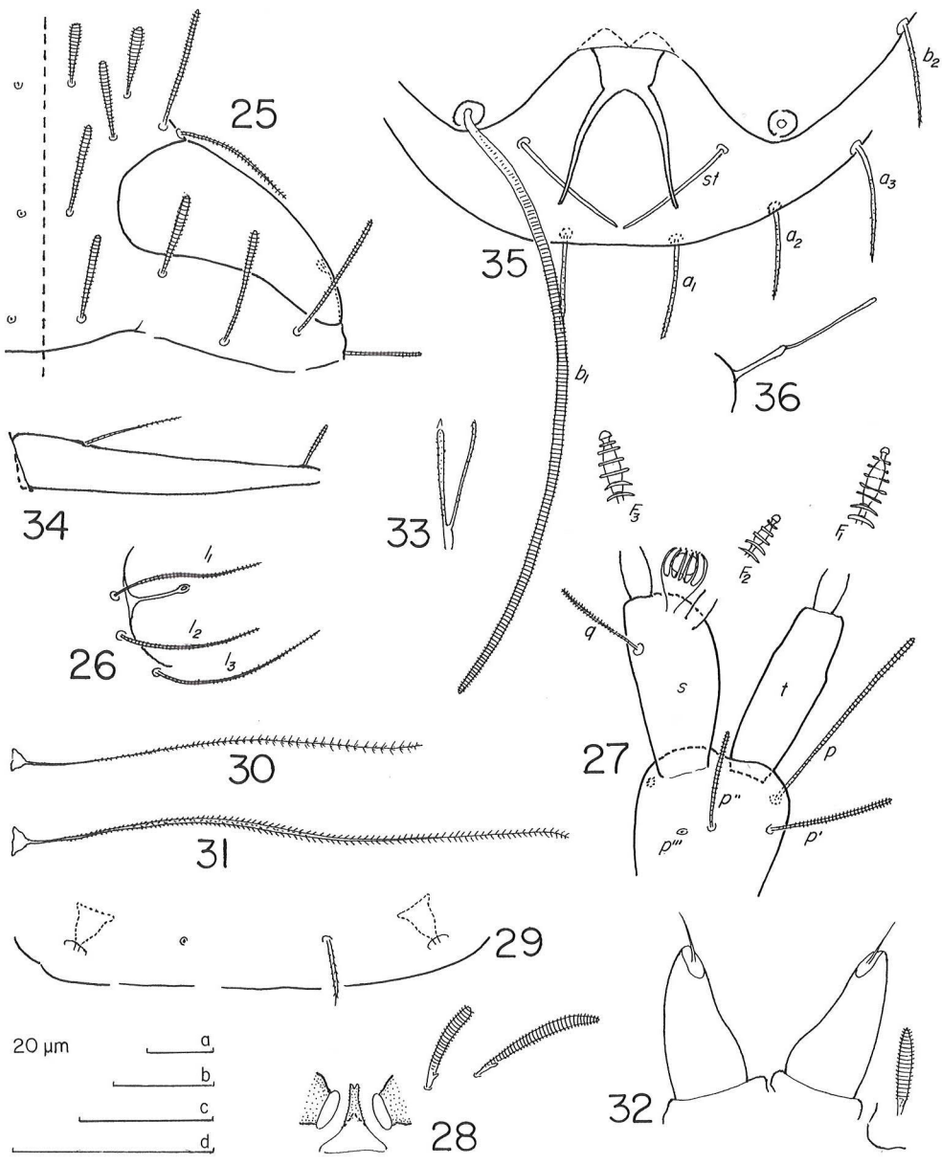
Figs. 2-7:
Millotauropus acostae n.sp., **2-6**: holotype, **7**: paratype.
2: Head and tergite I, right half, tergal view. **3**: Head, left side, lateral view. **4**: Left antenna, tergal view. **5**: Leg 1. **6**: Leg 2. **7**: Left penis, outer lateral view. Pubescence only partly drawn. Scale a: 2, 3, 5-7; b: 4.



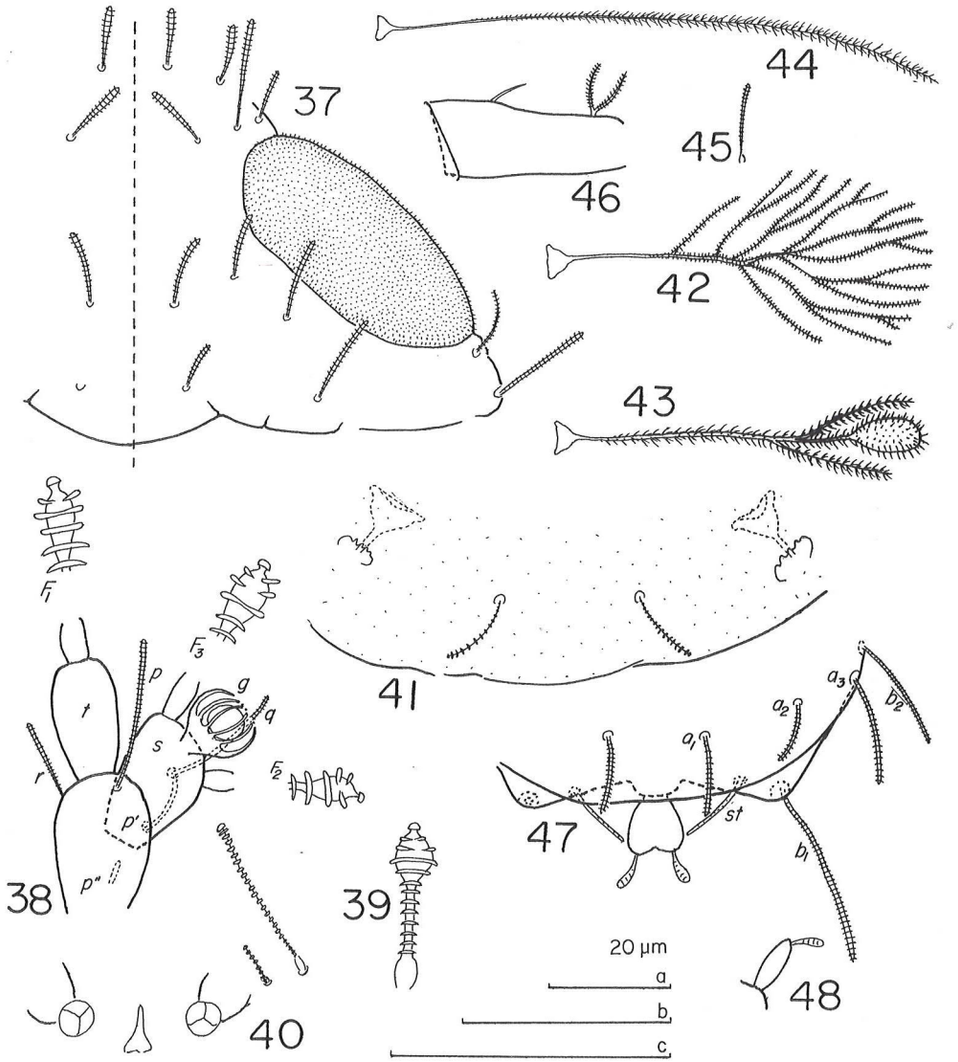
Figs. 8-12:
Millotauropus acostae n.sp., holotype.
8: T_1. **9**: T_5. **10**: Pygidium and posterior margin of last tergite, tergal view. **11**: Pygidium, median and left part, sternal view. **12**: Pygidial sternum with anal plate and seta b_1, lateral view. Pubescence only partly drawn in 10-12. Scale a: 8, 9; b: 10-12.



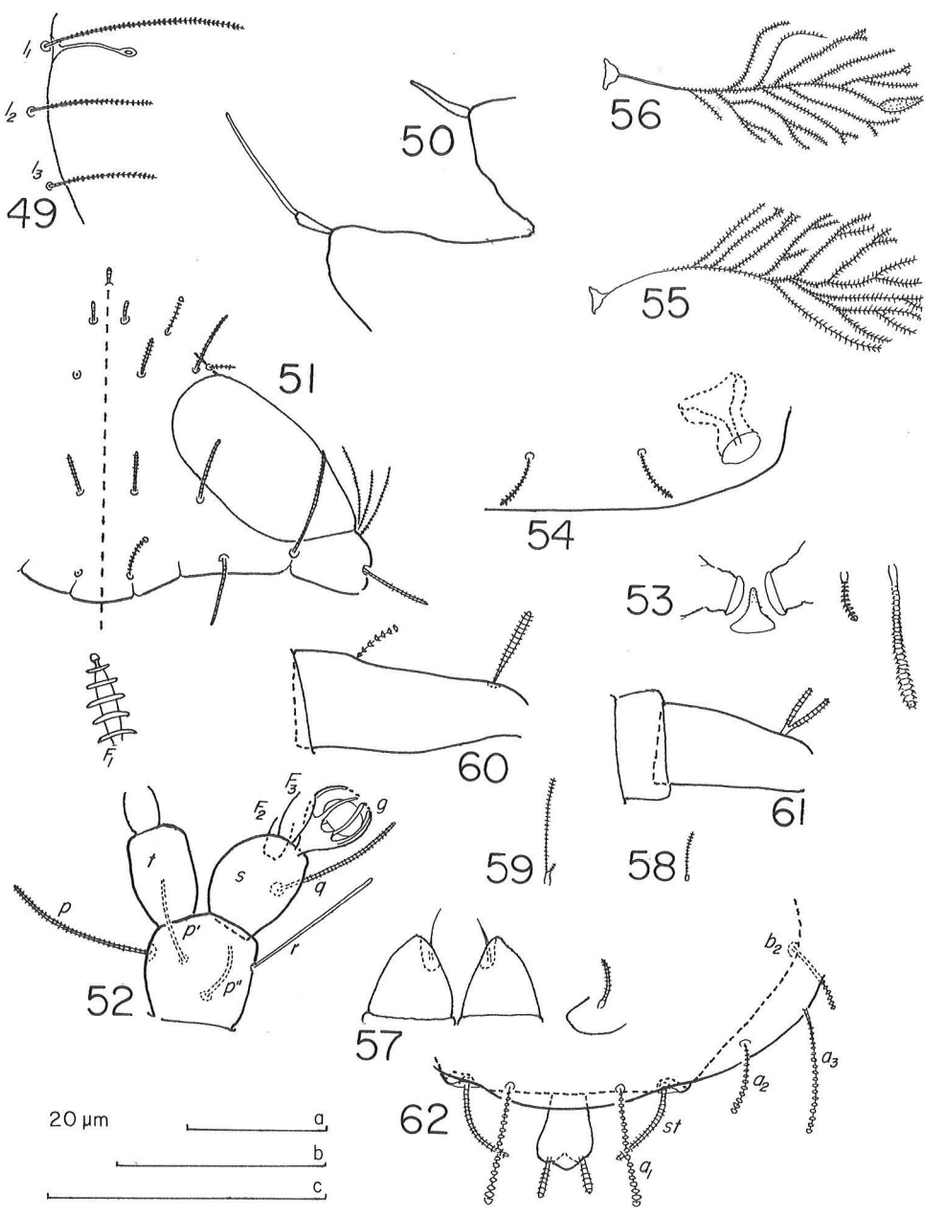
Figs. 13-24:
Allopauropus (Decapauropus) ieenus n.sp., holotype.
13: Head, median and right part, tergal view. **14**: Right temporal organ, posterior part, lateral view. **15**: Left antenna, sternal view. **16**: Collum segment, median and left part, sternal view. **17**: Tergite VI, posterior part. **18**: T_3. **19**: Seta on coxa of leg 9. **20**: Seta on trochanter of leg 9. **21**: Penes and seta on coxa of left leg 2, anterior view. **22**: Tarsus of leg 9. **23**: Pygidium, posterior and left part, sternal view. **24**: Anal plate, lateral view. Pubescence only partly drawn in 22. Scale a: 16-22; b: 13, 14; c: 15, 23, 24.



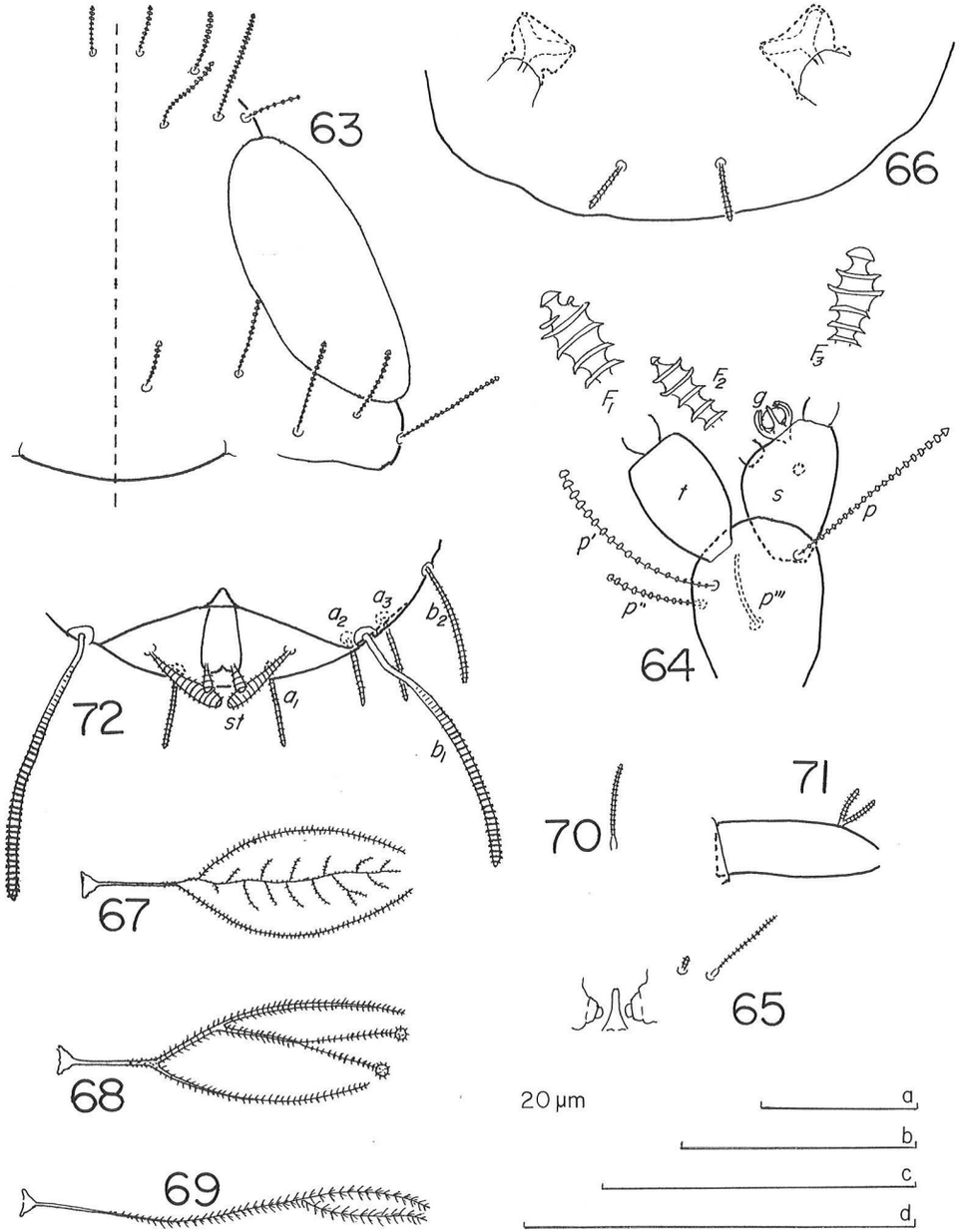
Figs. 25-36:
Allopauropus (Decapauropus) tohoius n.sp., holotype.
25: Head, median and right part, tergal view. **26**: Temporal organ, posterior part, right side, lateral view. **27**: Right antenna, sternal view. **28**: Collum segment, median and left part, sternal view. **29**: Tergite VI, posterior part. **30**: T_1. **31**: T_3. **32**: Penes and seta on coxa of left leg 2, anterior view. **33**: Seta on trochanter of leg 9. **34**: Tarsus of leg 9. **35**: Pygidium, posterior part, sternal view. **36**: Anal plate, lateral view.
Scale a: 30; b: 31-34; c: 25, 26, 28, 29; d: 27, 35, 36.



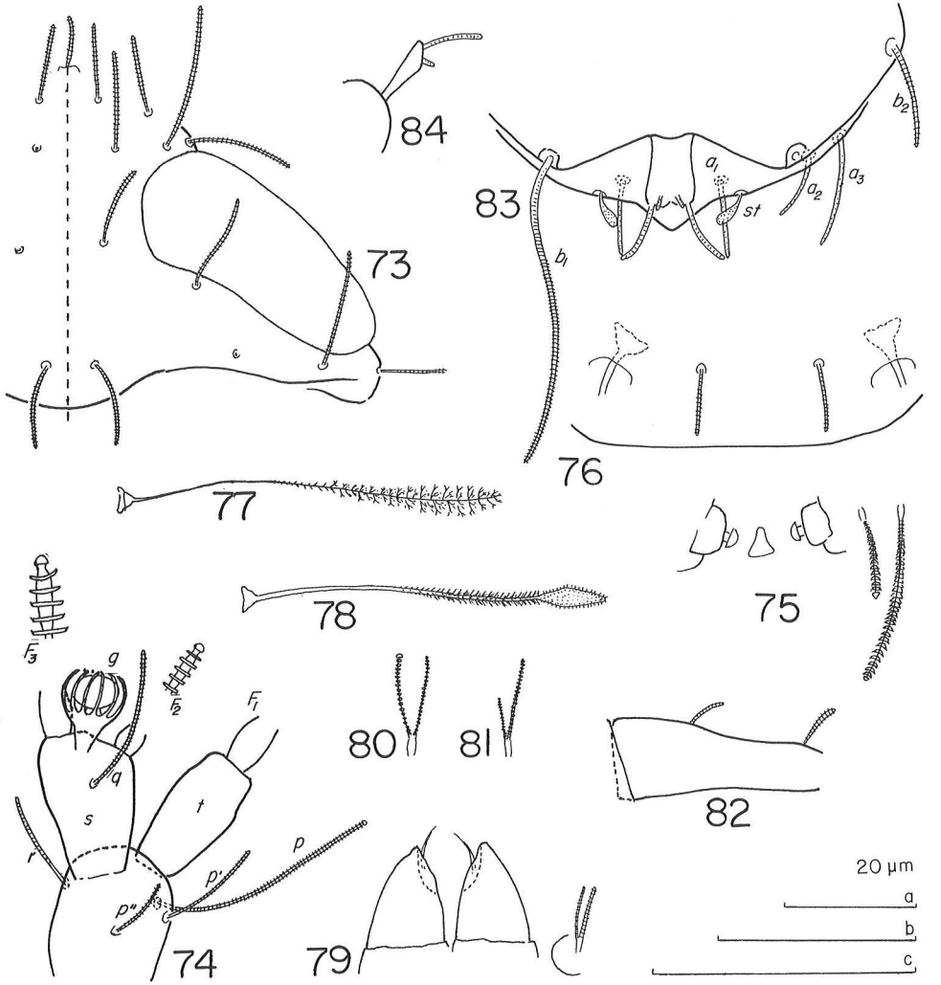
Figs. 37-48:
Allopauropus (Decapauropus) junki n.sp, **37-38** and **41-48**: holotype, **39**: paratype.
37: Head, median and right part, tergal view. **38**: Left antenna, tergal view. **39**: Flagellum $\mathbf{F_2}$ of left antenna. **40**: Collum segment, median and left part, sternal view. **41**: Tergite VI, posterior part. **42**: $\mathbf{T_1}$. **43**: $\mathbf{T_3}$. **44**: $\mathbf{T_5}$. **45**: Seta on coxa of leg 9. **46**: Tarsus of leg 9. **47**: Pygigium, posteromedian and left part, tergal view. **48**: Anal plate, lateral view. Scale a: 42-44; b: 40, 45, 46; c: 37-39, 41, 47, 48.



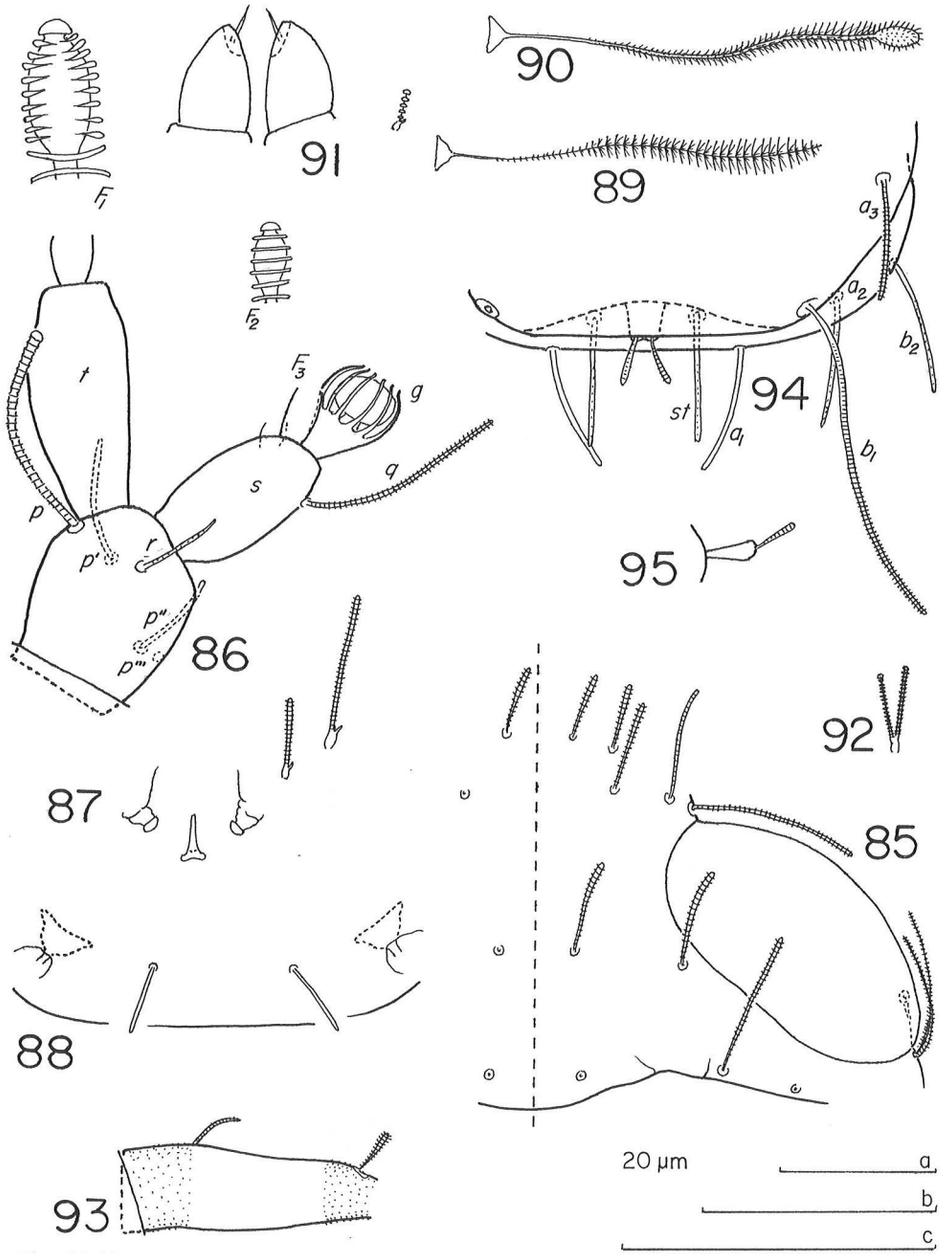
Figs. 49-62:
Allopauropus (Decapauropus) manausensis SCHELLER, figs. 49-50.
49: Temporal organ, posterior part, right side. **50**: Pygidium, posterior part with linguiform appendages of the tergum and anal plate of the sternum, lateral view.
Allopauropus (Decapauropus) anomoios n.sp., holotype, figs. 51-62.
51: Head, median and right part, tergal view. **52**: Right antenna, inner tergal view. **53**: Collum segment, median and left part, sternal view. **54**: Tergite VI, posterior part. **55**: $\mathbf{T_2}$. **56**: $\mathbf{T_3}$. **57**: Penes and seta on coxa of right leg 2. **58**: Seta on coxa of leg 9. **59**: Seta on trochanter of leg 9. **60**: Tarsus of leg 9. **61**: Tarsus and tibia of leg 8. **62**: Pygidium, median and left part, sternal view. Scale a: 49, 50, 55-59; b: 51, 53; c: 52, 54, 60-62.



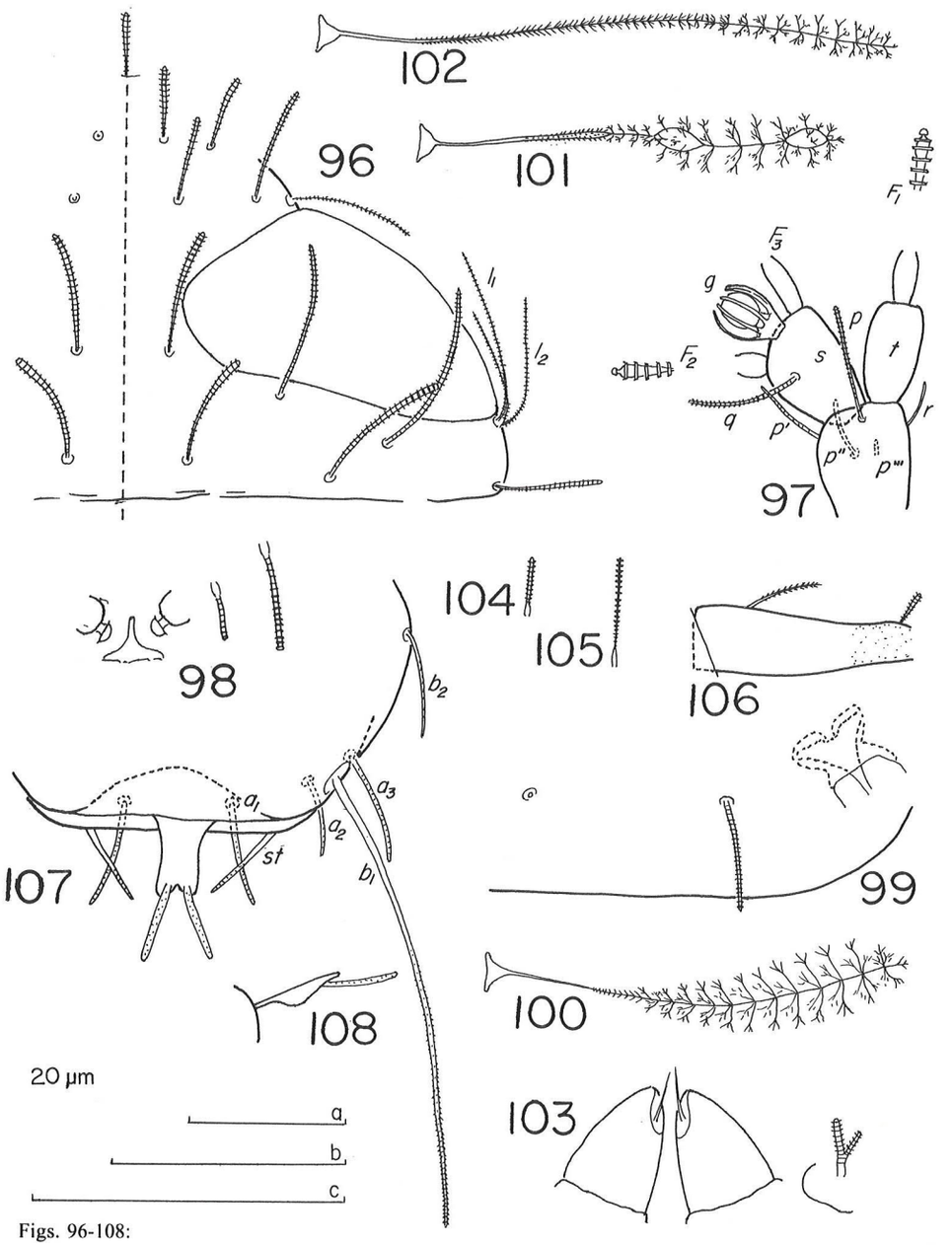
Figs. 63-72:
Allopauropus (Decapauropus) mirimus n.sp., holotype.
63: Head, median and right part, tergal view. **64**: Right antenna, tergal view. **65**: Collum segment, median and left part, sternal view. **66**: Tergite VI, posterior part. **67**: T_1. **68**: T_3. **69**: T_5. **70**: Seta on coxa of leg 9. **71**: Tarsus of leg 9. **72**: Pygidium, posteromedian and left part, sternal view. Scale a: 3, 5-7; b: 8, 9; c: 1, 10; d: 2, 4.



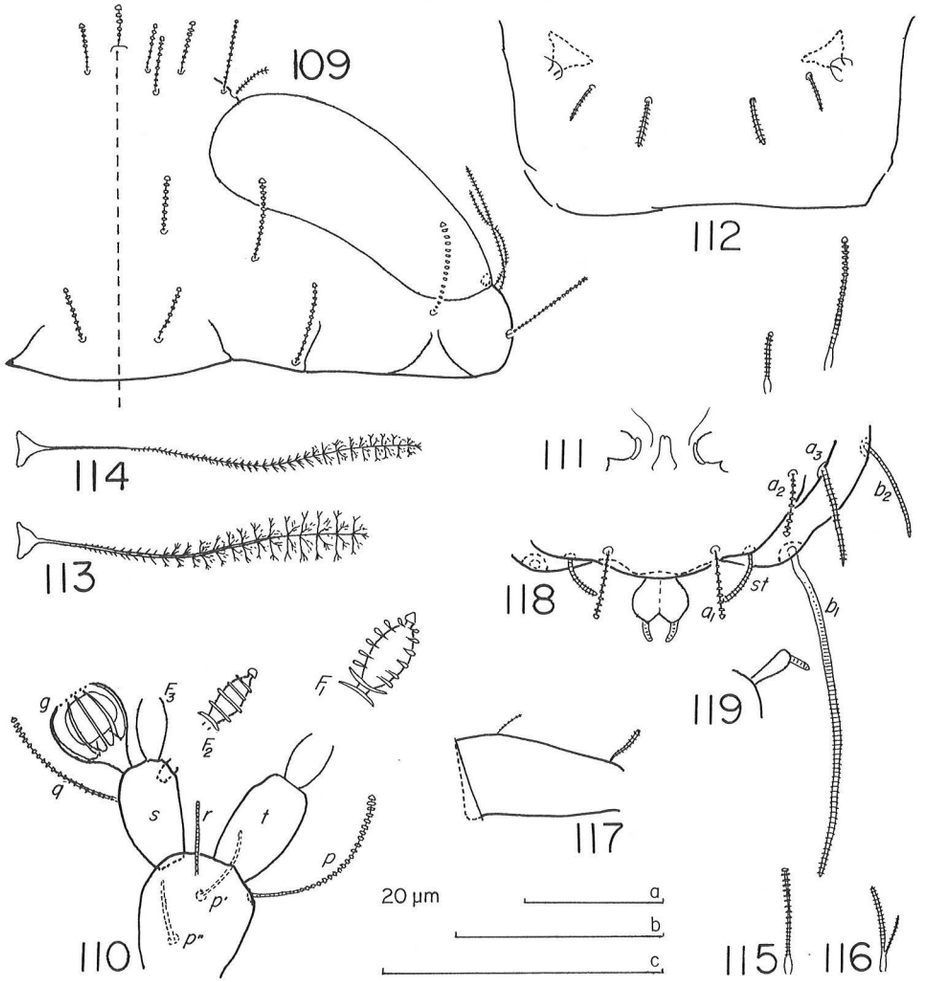
Figs. 73-84:
Allopauropus (Decapauropus) korynetes n.sp., holotype.
73: Head, median and right part, tergal view. **74**: Right antenna, sternal view. **75**: Collum segment, median and left part, sternal view. **76**: Tergite VI, posteromedian part. **77**: T_1. **78**: T_3. **79**: Penes and seta on coxa of leg 2, anterior view. **80**: Seta on coxa of leg 9. **81**: Seta on trochanter of leg 9. **82**: Tarsus of leg 9. **83**: Pygidium, median and left part, sternal view. **84**: Anal plate, lateral view. Scale a: 77-79; b: 73, 75, 76, 80-82; c: 74, 83, 84.



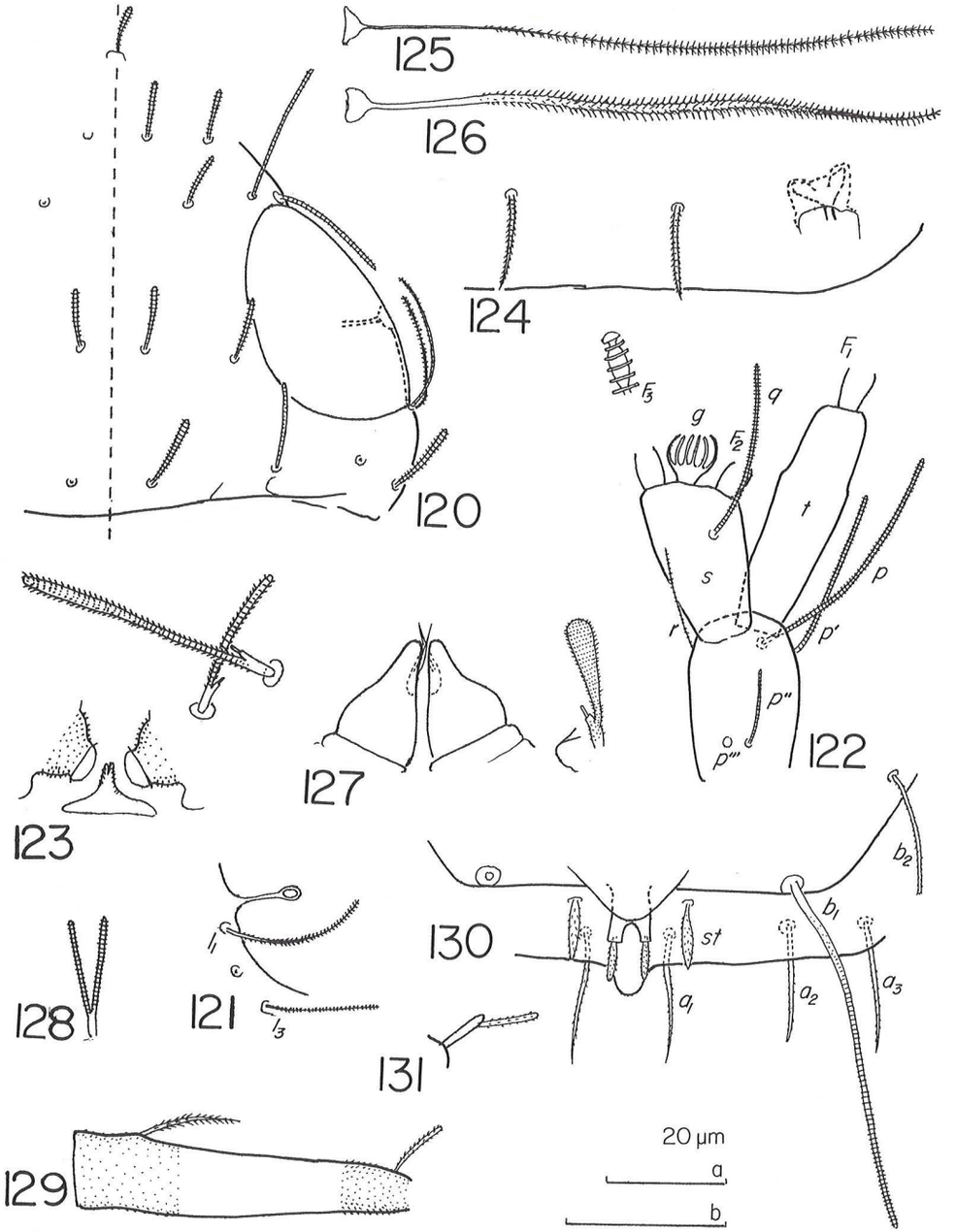
Figs. 85-95:
Allopauropus (Decapauropus) pachyflagellus n.sp., **85-90** and **92-95**: holotype, **91**: paratype.
85: Head, median and right part, tergal view. **86**: Right antenna, posterior view. **87**: Collum segment, median and left part, sternal view. **88**: Tergite VI, posteromedian part. **89**: T_1. **90**: T_3. **91**: Penes and seta on coxa of left leg 2, anterior view. **92**: Seta on coxa of leg 9. **93**: Tarsus of leg 9. **94**: Pygidium, median and left part, sternal view. **95**: Anal plate, lateral view. Scale a: 89-91; b: 85, 88, 92, 93; c: 86, 87, 94, 95.



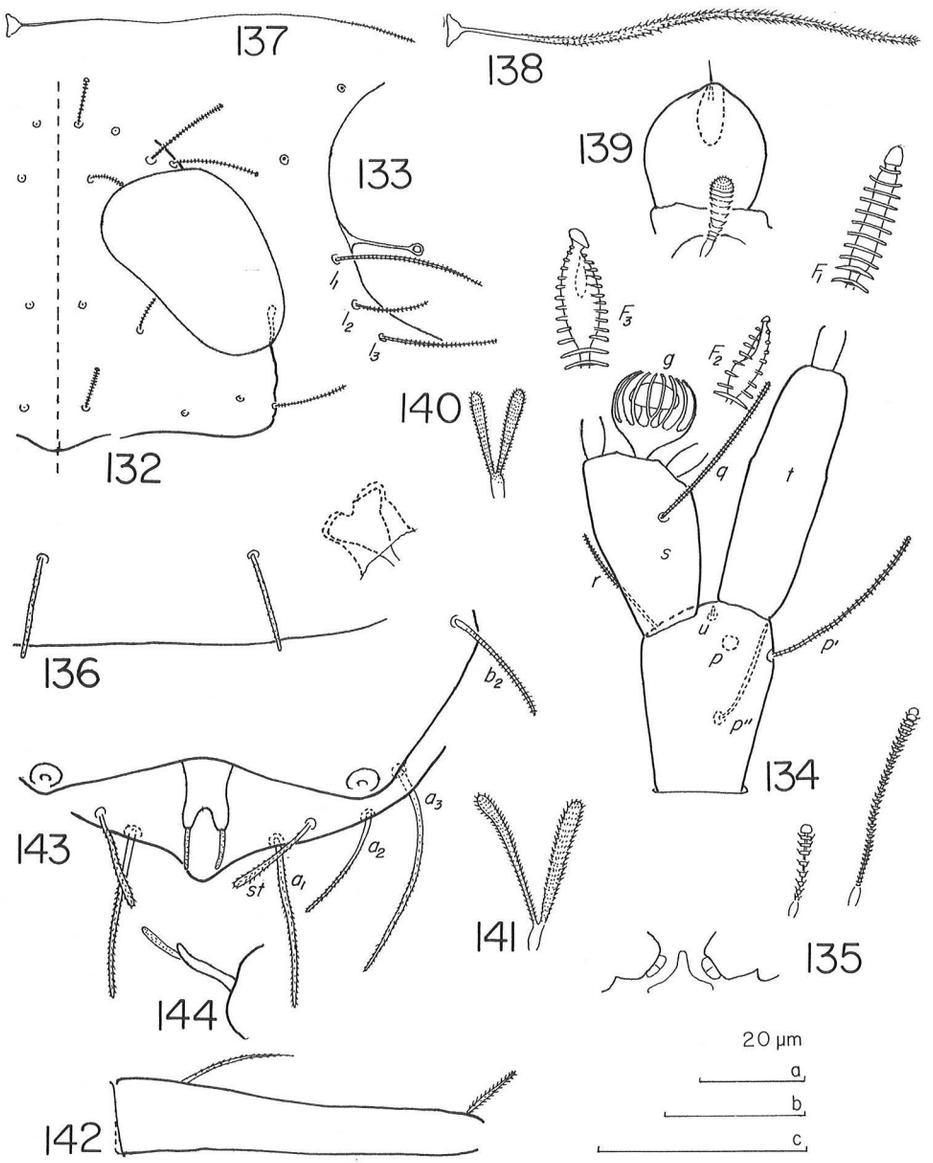
Figs. 96-108:
Allopauropus (Decapauropus) aius n.sp., holotype.
96: Head, median and right part, tergal view. **97**: Right antenna, tergal view. **98**: Collum segment, median and left part, sternal view. **99**: Tergite VI, posteromedian part. **100**: T_1. **101**: T_3. **102**: T_5. **103**: Penes and seta on coxa of left leg 2, anterior view. **104**: Seta on coxa of leg 9. **105**: Seta on trochanter of leg 9. **106**: Tarsus of leg 9. **107**: Pygidium, median and left part, sternal view. **108**: Anal plate, lateral view. Scale a: 98, 100-106; b: 96, 97; c: 99, 107, 108.



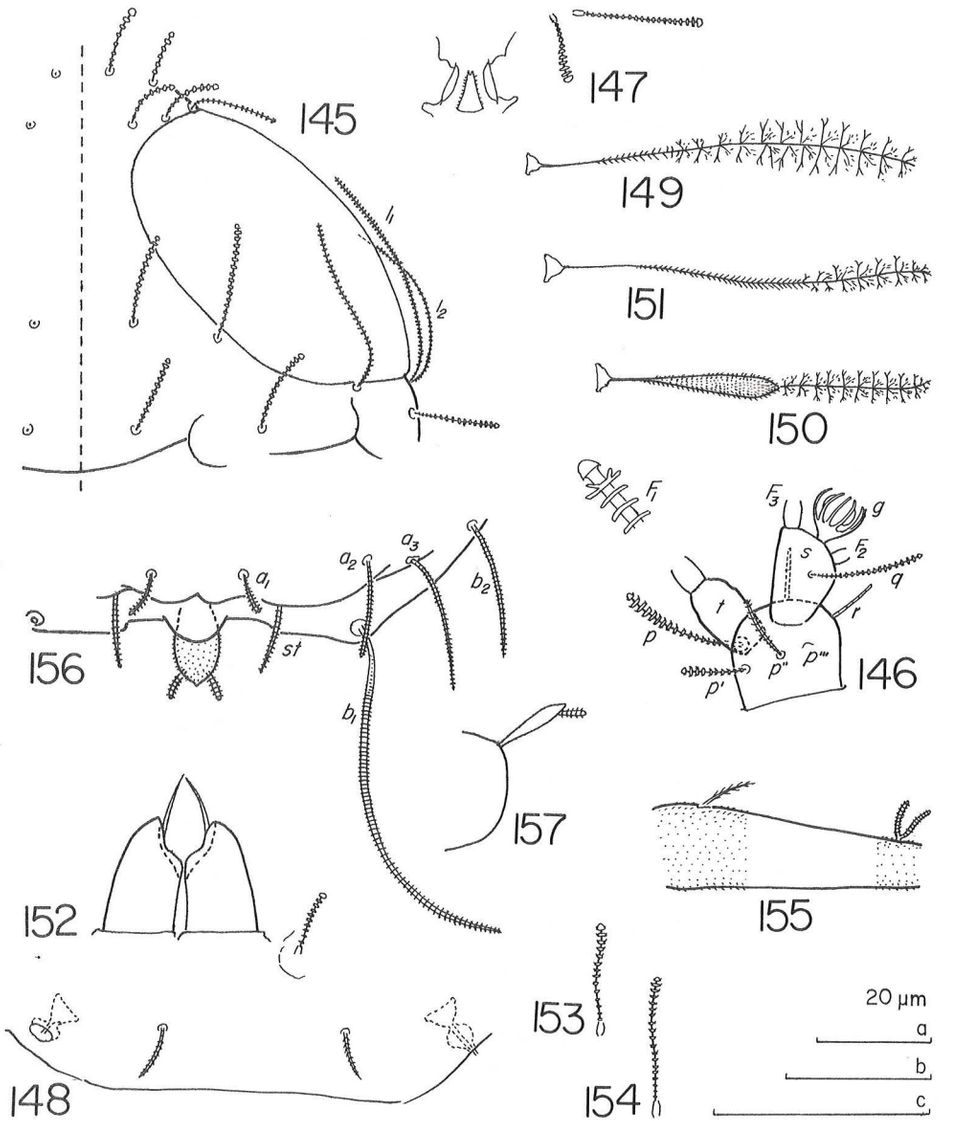
Figs. 109-119:
Allopauropus (Decapauropus) hylaios n.sp., **109-111** and **113-119**: adult holotype, **112**: subadult paratype. **109**: Head, median and right part, tergal view. **110**: Left antenna, outer lateral view. **111**: Collum segment, median and left part, sternal view. **112**: Tergite VI, posterior part. **113**: T_3. **114**: T_5. **115**: Seta on coxa of leg 9. **116**: Seta on trochanter of leg 9. **117**: Tarsus of leg 9. **118**: Pygidium, median and left part, tergal view. **119**: Anal plate, lateral view. Scale a: 113, 114; b: 111, 112, 115-117; c: 109, 110, 118, 119.



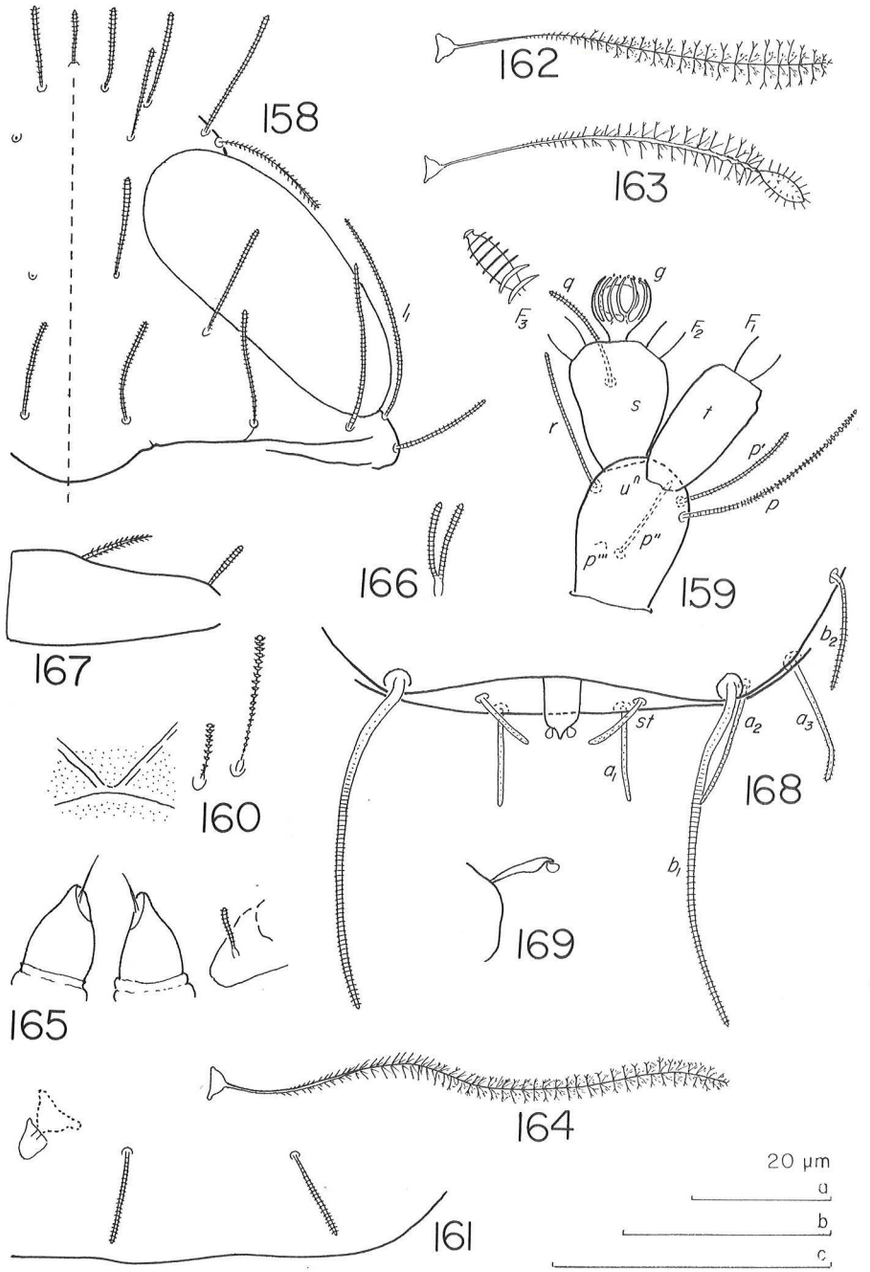
Figs. 120-131:
Allopauropus (Decapauropus) campinaranicus n.sp., holotype.
120: Head, median and right part, tergal view. **121**: Temporal organ, posterior part, right side, lateral view. **122**: Right antenna, sternal view. **123**: Collum segment, median and left part, sternal view. **124**: Tergite VI, posteromedian and right posterolateral part. **125**: T_2. **126**: T_3. **127**: Penes and seta on coxa of left leg 2, anterior view. **128**: Seta on coxa of leg 9. **129**: Tarsus of leg 9. **130**: Pygidium, median and left part, sternal view. **131**: Anal plate, lateral view. Pubescence only partly drawn in 129. Scale a: 120, 121, 125-129; b: 122-124, 130, 131.



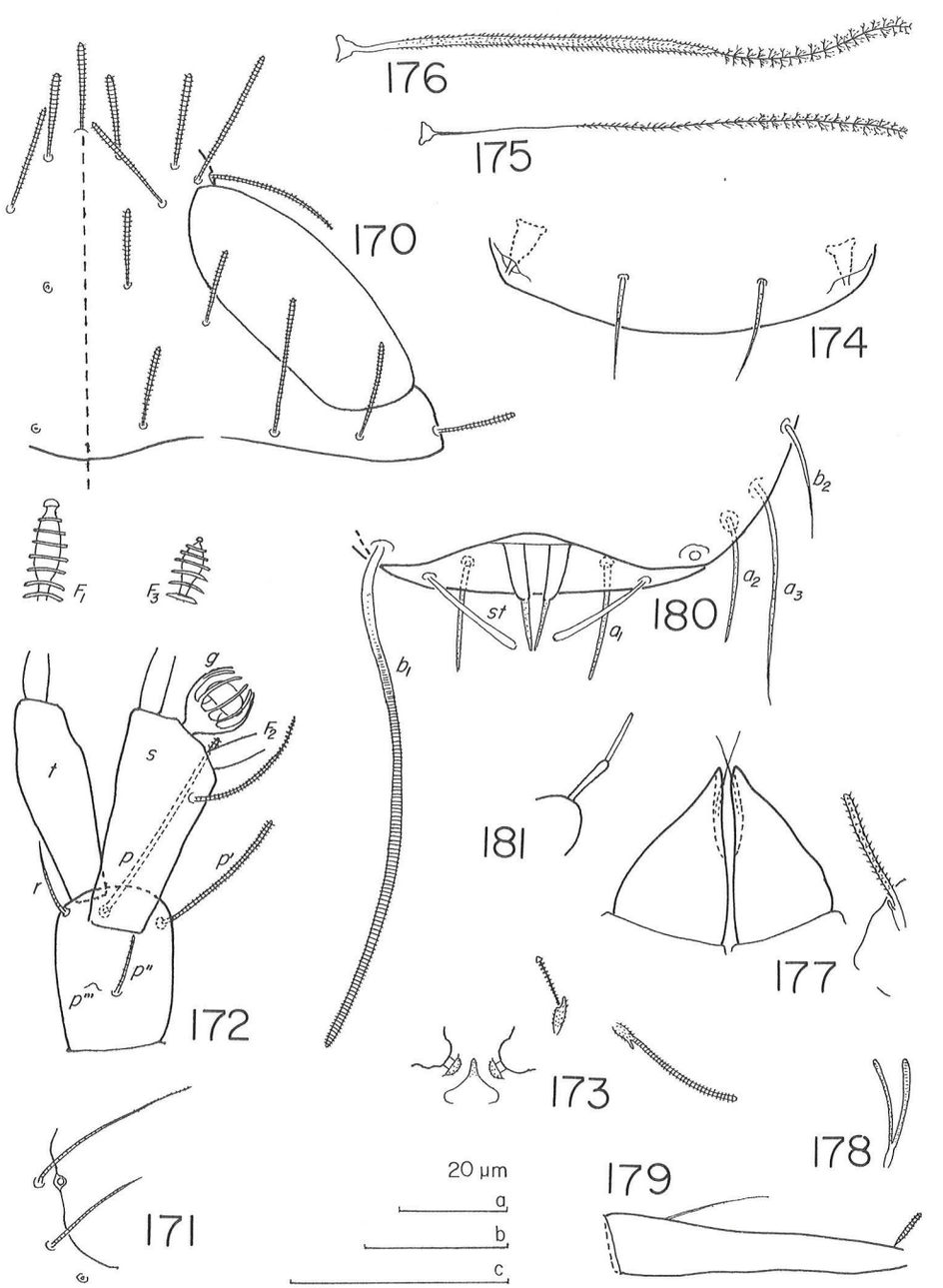
Figs. 132-144:
Allopauropus (Decapauropus) careiroensis n.sp., **132-138** and **140-144**: holotype, **139**: paratype.
132: Head, median and right part, tergal view. **133**: Temporal organ, posterior part, right side, lateral view. **134**: Right antenna, sternal view. **135**: Collum segment, median and left part, sternal view. **136**: Tergite VI, posteromedian and right posterolateral part. **137**: T_1. **138**: T_3. **139**: Right penis and seta on coxa of leg 2, lateral view. **140**: Seta on coxa of leg 9. **141**: Seta on trochanter of leg 9. **142**: Tarsus of leg 9. **143**: Pygidium, posteromedian and left part, sternal view. **144**: Anal plate, lateral view. Scale a: 132, 137, 138; b: 133, 135, 139-142; c: 134, 136, 143, 144.



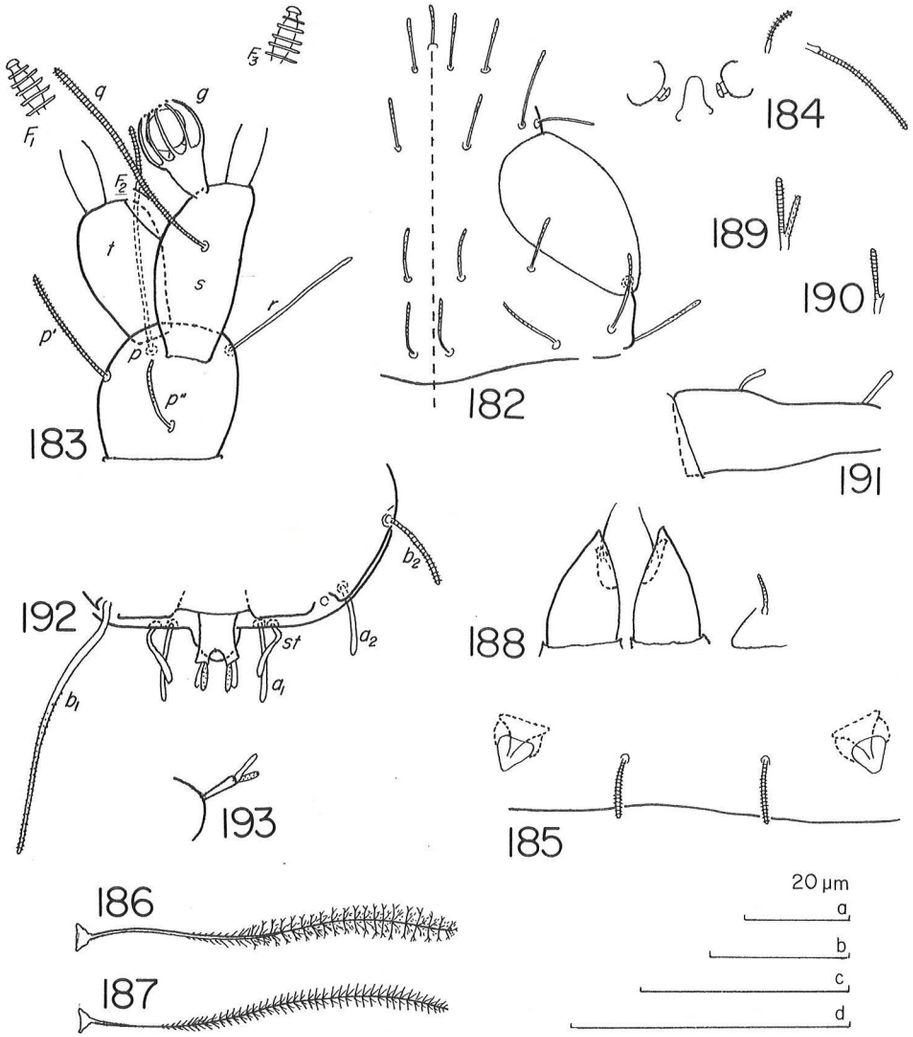
Figs. 145-157:
Allopauropus (Decapauropus) kordylinos n.sp., holotype.
145: Head, median and right part, tergal view. **146**: Right antenna, sternal view. **147**: Collum segment, median and left part, sternal view. **148**: Tergite VI, posterior part. **149**: T_1. **150**: T_3. **151**: T_5. **152**: Penes and seta on coxa of left leg 2, anterior view. **153**: Seta on coxa of leg 9. **154**: Seta on trochanter of leg 9. **155**: Tarsus of leg 9. **156**: Pygidium, median and right part, tergal view. **157**: Posterior part of pygidial sternum with anal plate, lateral view. Pubescence only partly drawn in 155. Scale a: 149-151; b: 146-148; c: 145, 152-157.



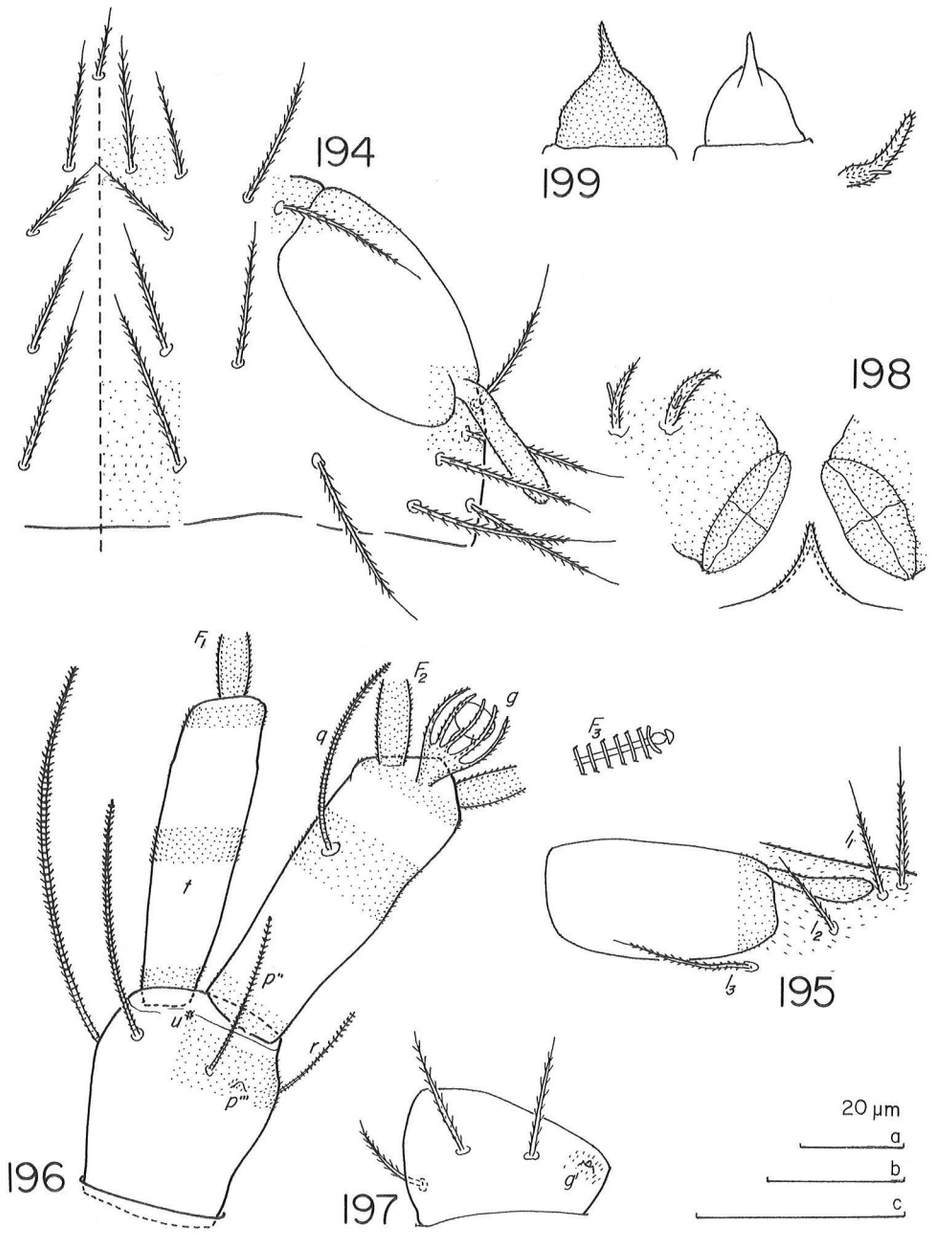
Figs. 158-169:
Allopauropus (Decapauropus) disappendicalis n.sp., holotype.
158: Head, median and right part, tergal view. **159**: Left antenna, tergal view. **160**: Collum segment, sternal view. **161**: Tergite VI, posteromedian and right posterolateral part. **162**: T_1. **163**: T_3. **164**: T_5. **165**: Penes and seta on coxa of left leg 2, anterior view. **166**: Seta on coxa of leg 9. **167**: Tarsus of leg 9.
168: Pygidium, posterior and left part, sternal view. **169**: Posterior part of pygidial sternum with anal plate, lateral view. Scale a: 160, 162-165; b: 158, 159, 161, 167; c: 166, 168, 169.



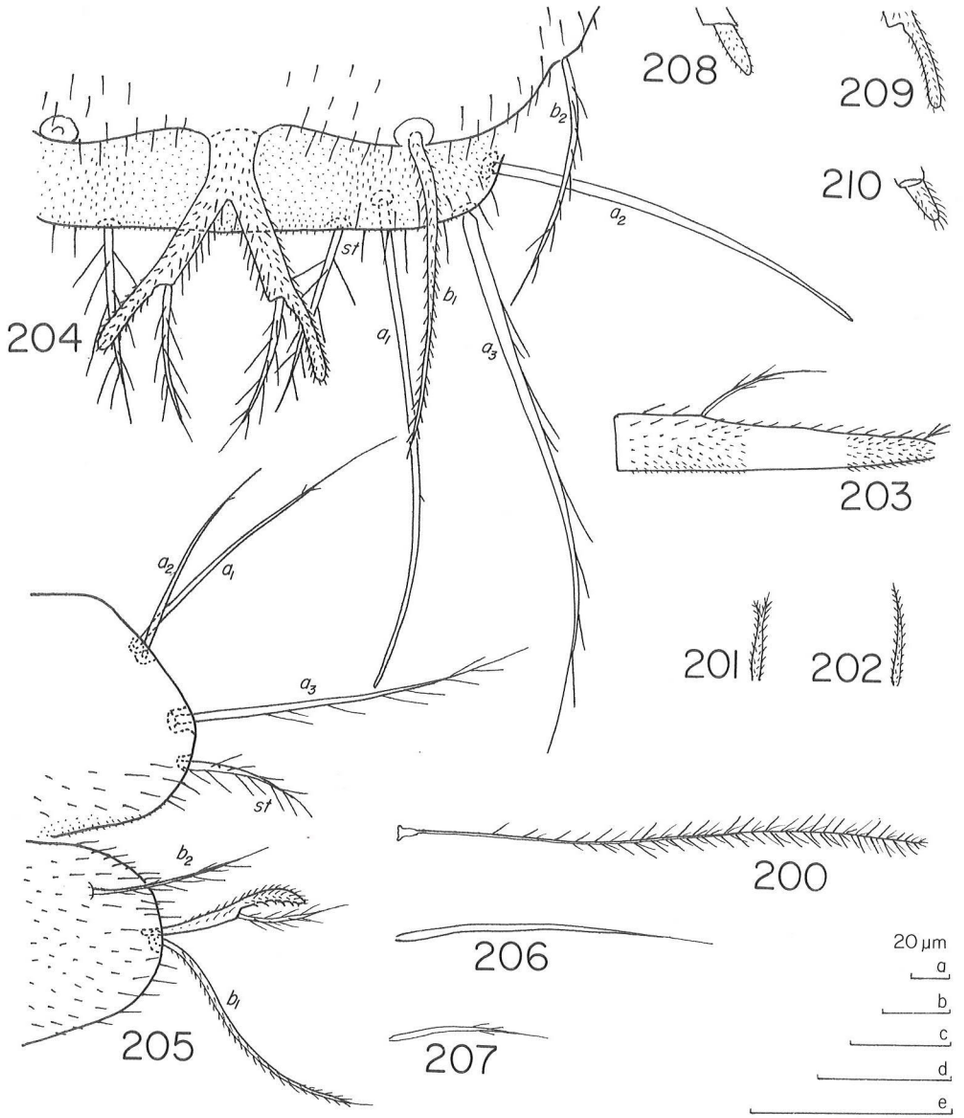
Figs. 170-181:
Allopauropus (Decapauropus) dischides n.sp., holotype.
170: Head, median and right part, tergal view. **171**: Temporal organ, posterior part, right side, lateral view. **172**: Right antenna, sternal view. **173**: Collum segment, median and left part, sternal view. **174**: Tergite VI, posterior part. **175**: T_1. **176**: T_3. **177**: Penes and seta on coxa of left leg 2, anterior view. **178**: Seta on coxa of leg 9. **179**: Tarsus of leg 9. **180**: Pygidium, posterior and left part, sternal view. **181**: Posterior part of pygidial sternum with anal plate, lateral view. Scale a: 173, 175, 176, 178, 179; b: 170, 171, 174, 177; c: 172, 180, 181.



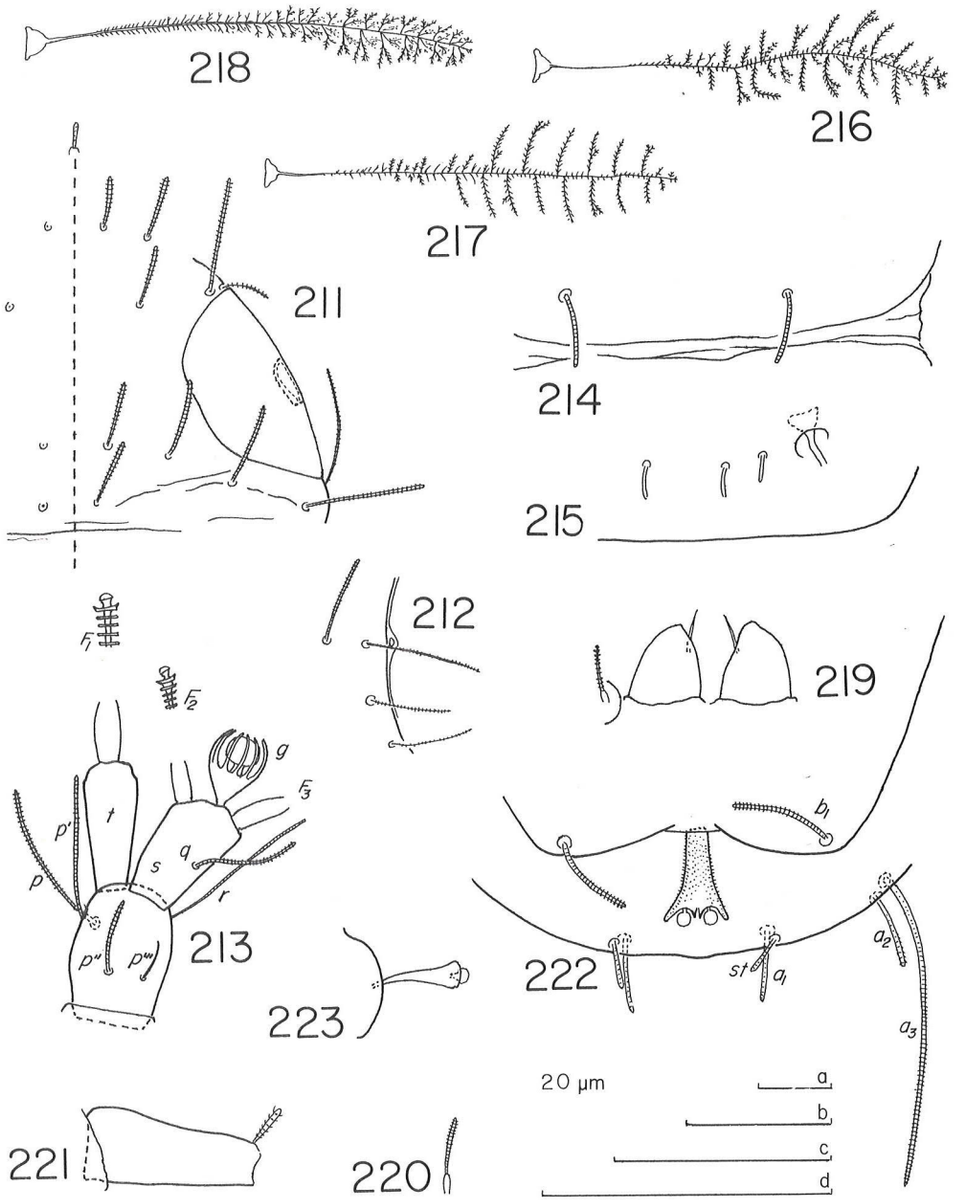
Figs. 182-193:
Allopauropus (Decapauropus) aduncus n.sp., holotype.
182: Head, median and right part, tergal view. **183**: Left antenna, sternal view. **184**: Collum segment, median and left part, sternal view. **185**: Tergite VI, posteromedian part. **186**: T_3. **187**: T_5. **188**: Penes and seta on coxa of left leg 2, anterior view. **189**: Seta on coxa of leg 9. **190**: Seta on trochanter of leg 9. **191**: Tarsus of leg 9. **192**: Pygidium, median and left part, sternal view. **193**: Posterior part of pygidial sternum with anal plate, lateral view. Scale a: 187; b: 182, 186, 188; c: 184, 189-193; d: 183, 185.



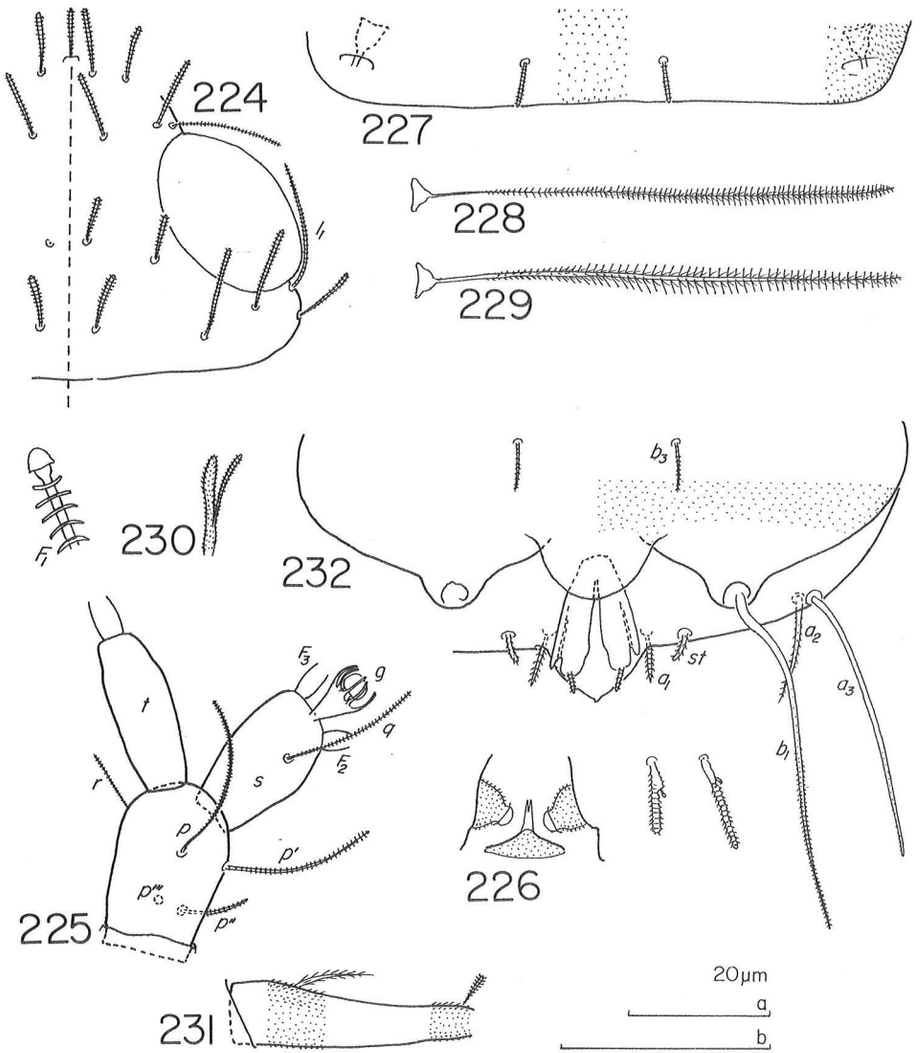
Figs. 194-199:
Allopauropus (Perissopauropus) amphikomos n. subgen., n.sp., holotype.
194: Head, median and right part, tergal view. **195**: Temporal organ and posterior vesicular appendage, left side, lateral view. **196**: Left antenna, sternal view. **197**: 3rd antennal segment, left side, tergal view. **198**: Collum segment, median and right part, sternal view. **199**: Penes and seta on coxa of left leg 2, anterior view. Pubescence only partly drawn in 194-197, 199. Scale a: 195, 198, 199; b: 194; c: 196, 197.



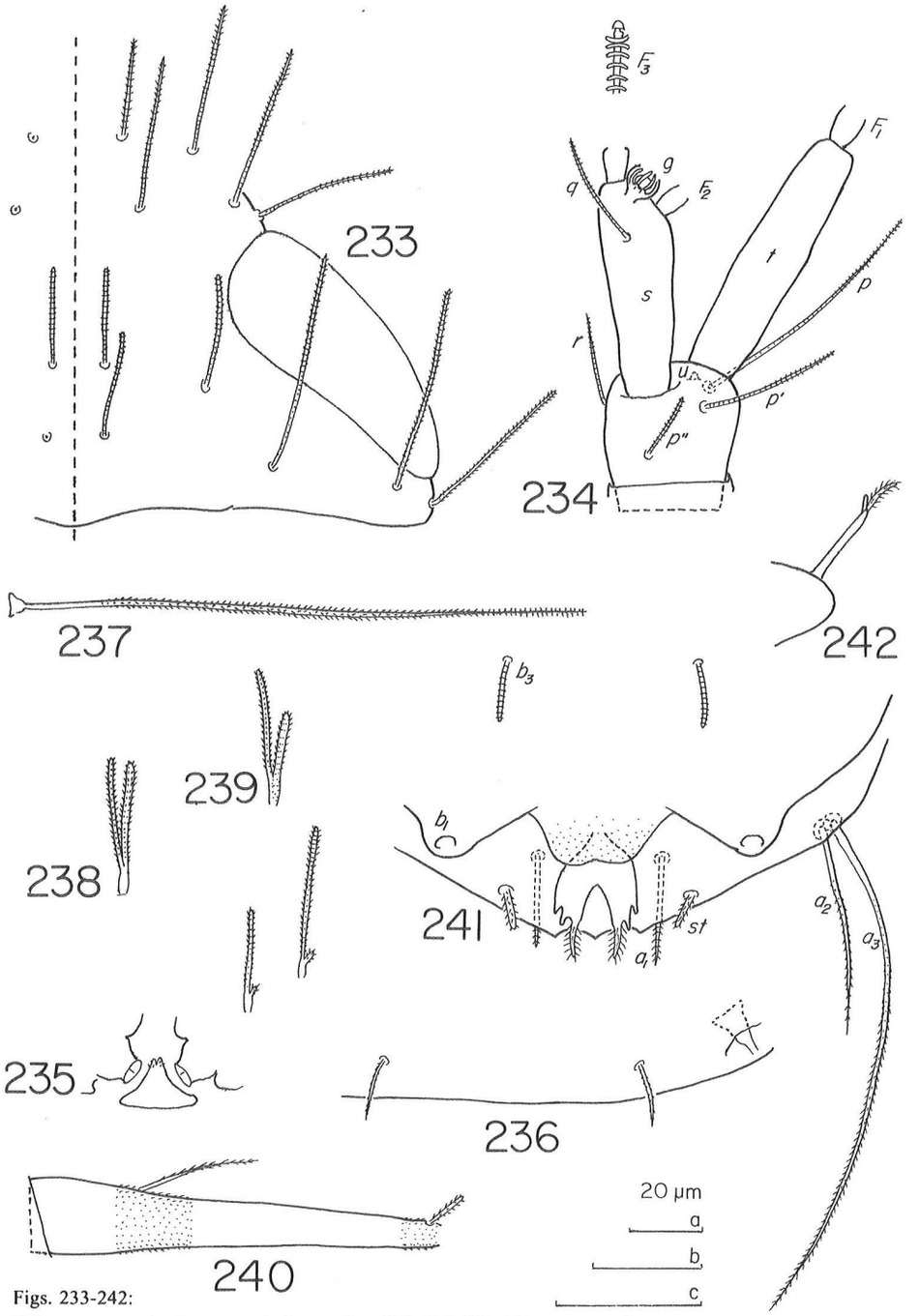
Figs. 200-210:
Allopauropus (Perissopauropus) amphikomos n. subgen., n.sp., holotype, figs. 200-207, 209.
200: T_5. **201**: Seta on coxa of leg 8. **202**: Seta on trochanter of leg 8. **203**: Tarsus of leg 8. **204**: Pygidium, posteromedian and left part, sternal view. **205**: Pygidium, lateral view. **206**: Pygidial seta d_1. **207**: Pygidial seta d_2. **209**: Anal plate, left branch, posterior part, sternal view.
Allopauropus (Perissopauropus) bounourei REMY, fig. 208.
208: Anal plate, left branch, posterior part, sternal view.
Allopauropus (Perissopauropus) tridens SCHELLER, fig. 210.
210: Anal plate, left branch, posterior part, sternal view. Pubescence only partly drawn in 203 and 205. Scale a: 200; b: 203; c: 201, 202; d: 205-207; e: 204.



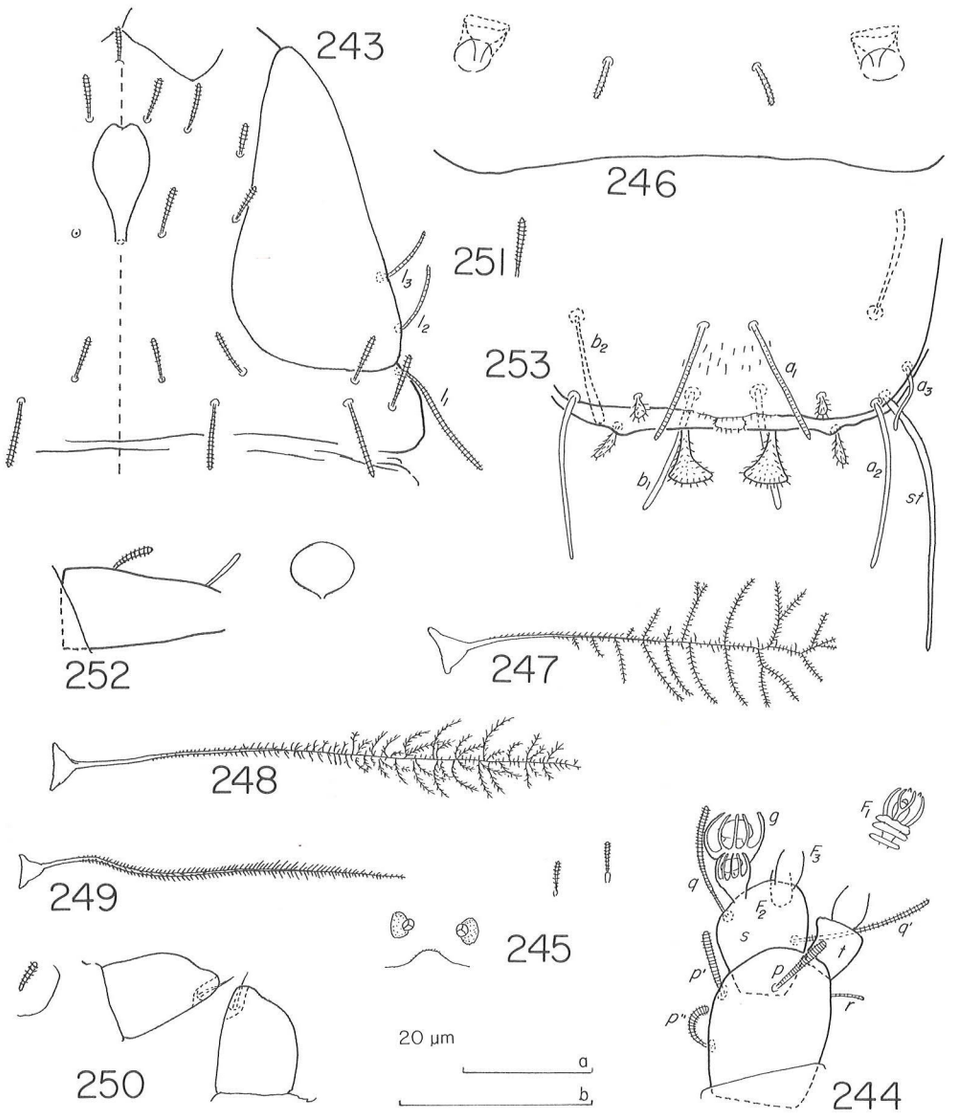
Figs. 211-223:
Cauvetauropus (Cauvetauropus) biglobulosus n. subgen., n.sp., holotype figs. 211-218, 220-223; paratype fig. 219.
211: Head, median and right part, tergal view. **212**: Temporal organ, posterior part, right side, lateral view. **213**: Left antenna, sternal view. **214**: Collum segment, sternal view. **215**: Tergite VI, posteromedian and right part. **216**: T_3. **217**: T_4. **218**: T_5. **219**: Penes and seta on coxa of left leg 2, anterior view. **220**: Seta on trochanter of leg 8. **221**: Tarsus of leg 8. **222**: Pygidium, posteromedian and left part, sternal view.
223: Posterior part of pygidial sternum with anal plate, lateral view. Scale a: 212; b: 214-219; c: 211, 213, 220, 221; d: 222, 223.



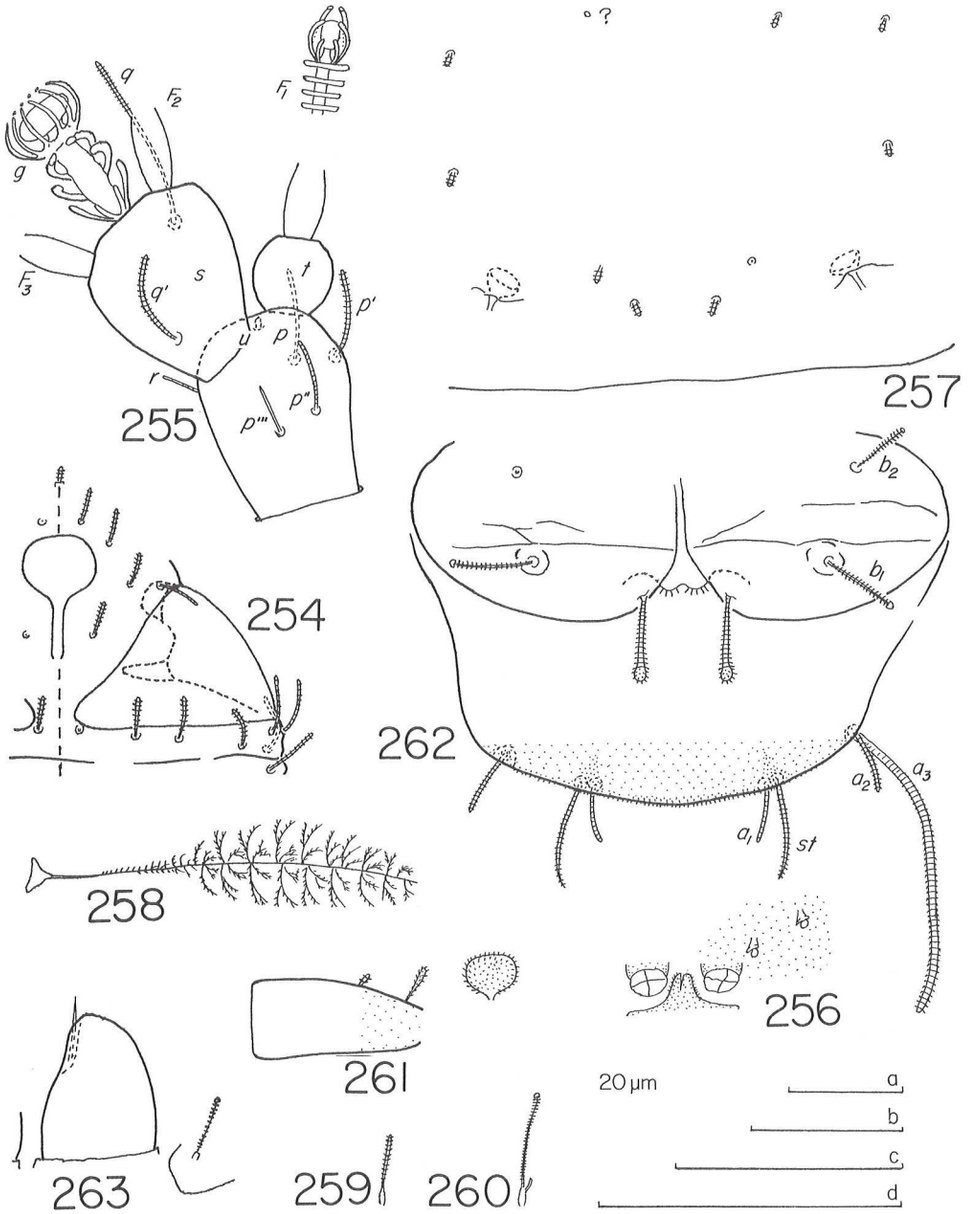
Figs. 224-232:
Scleropauropus rimatus n.sp., holotype.
224: Head, median and right part, tergal view. **225**: Left antenna, tergal view. **226**: Collum segment, median and left part, sternal view. **227**: Tergite VI, posterior part. **228**: T_1. **229**: T_3. **230**: Seta on trochanter of leg 9. **231**: Tarsus of leg 9. **232**: Pygidium, posteromedian and left part, sternal view. Pubescence only partly drawn in 227, 231 and 232. Scale a: 224-231; b: 232.



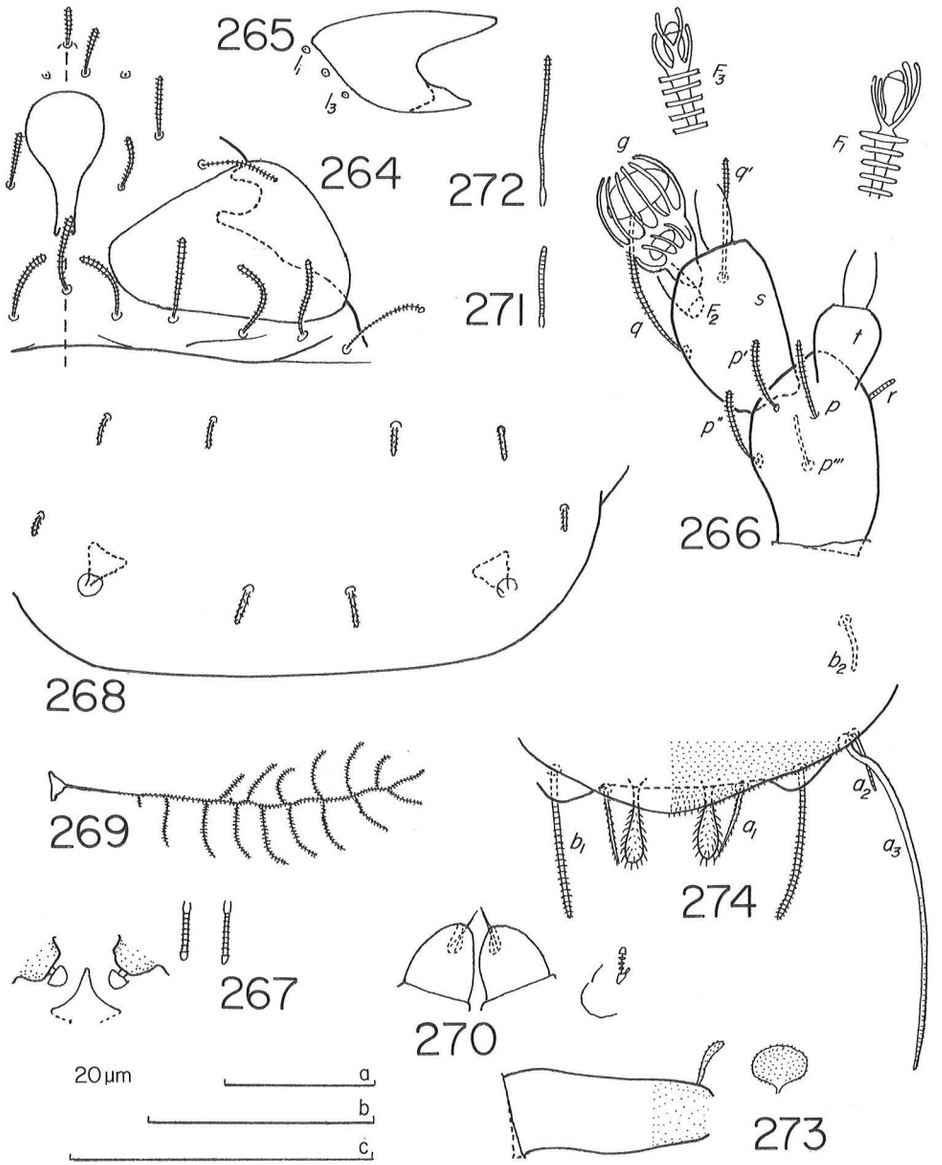
Figs. 233-242:
Scleropauropus beritae n.sp., holotype figs. 233-236, 238-242; paratype fig. 237.
233: Head, median and right part, tergal view. **234**: Right antenna, sternal view. **235**: Collum segment, median and left part, sternal view. **236**: Tergite VI, posteromedian and right posterolateral part. **237**: T_3. **238**: Seta on coxa of leg 9. **239**: Seta on trochanter of leg 9. **240**: Tarsus of leg 9. **241**: Pygidium, posteromedian and left part, sternal view. **242**: Posterior part of pygidial sternum with anal plate, lateral view. Pubescence only partly drawn in 240 and 241. Scale a: 236, 237; b: 235, 238-240; c: 233, 234, 241, 242.



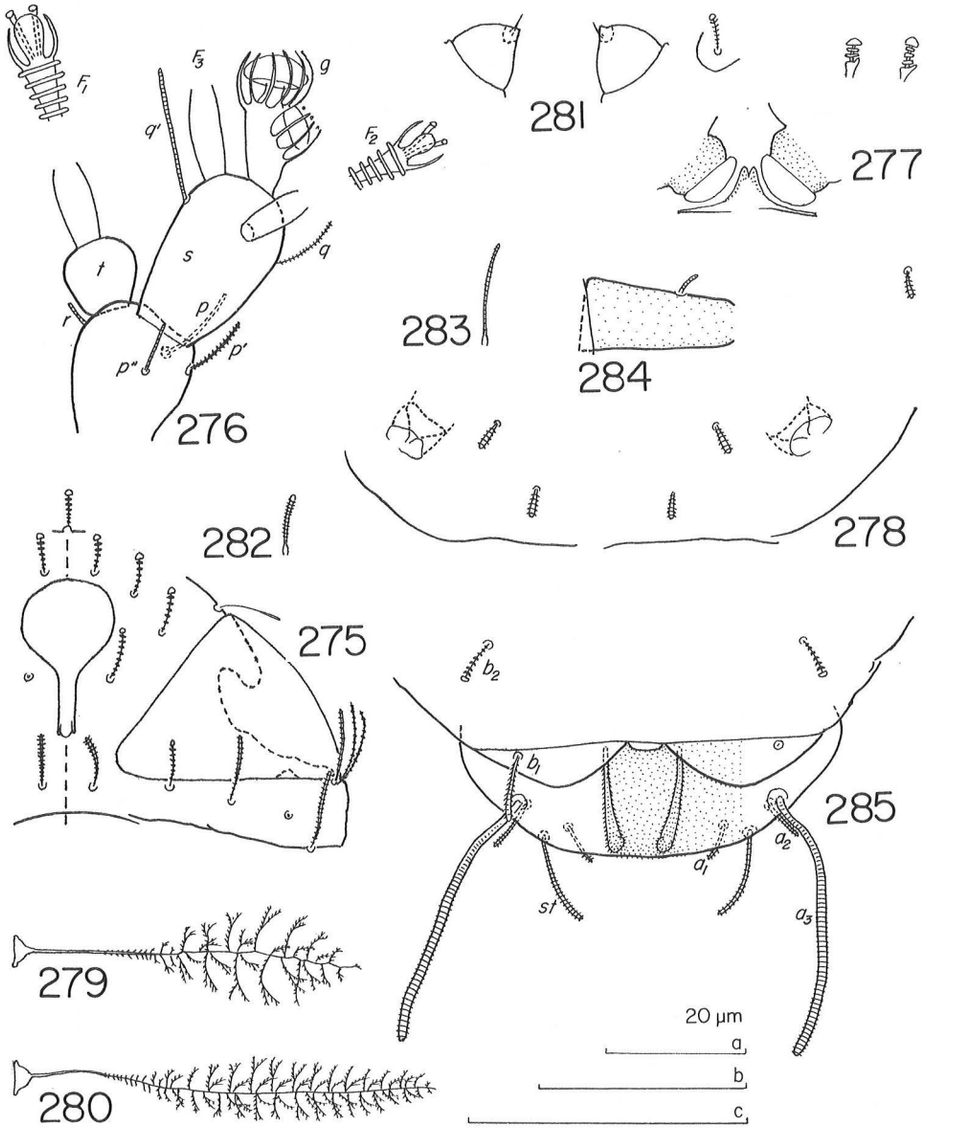
Figs. 243-253:
Scleropauropus tchimbus n.sp., holotype figs. 243-249 and 251-253; paratype fig. 250.
243: Head, median and right part, tergal view. **244**: Right antenna, sternal view. **245**: Collum segment, median and left part, sternal view. **246**: Tergite VI, posteromedian part. **247**: T_1. **248**: T_3. **249**: T_5. **250**: Penes and seta on coxa of left leg 2. **251**: Seta on trochanter of leg 9. **252**: Tarsus of leg 9; to the right distal seta, tergal view. **253**: Pygidium, medium and left part, tergal view. Scale a: 245, 249, 250; b: 243, 244, 246-248, 251-253.



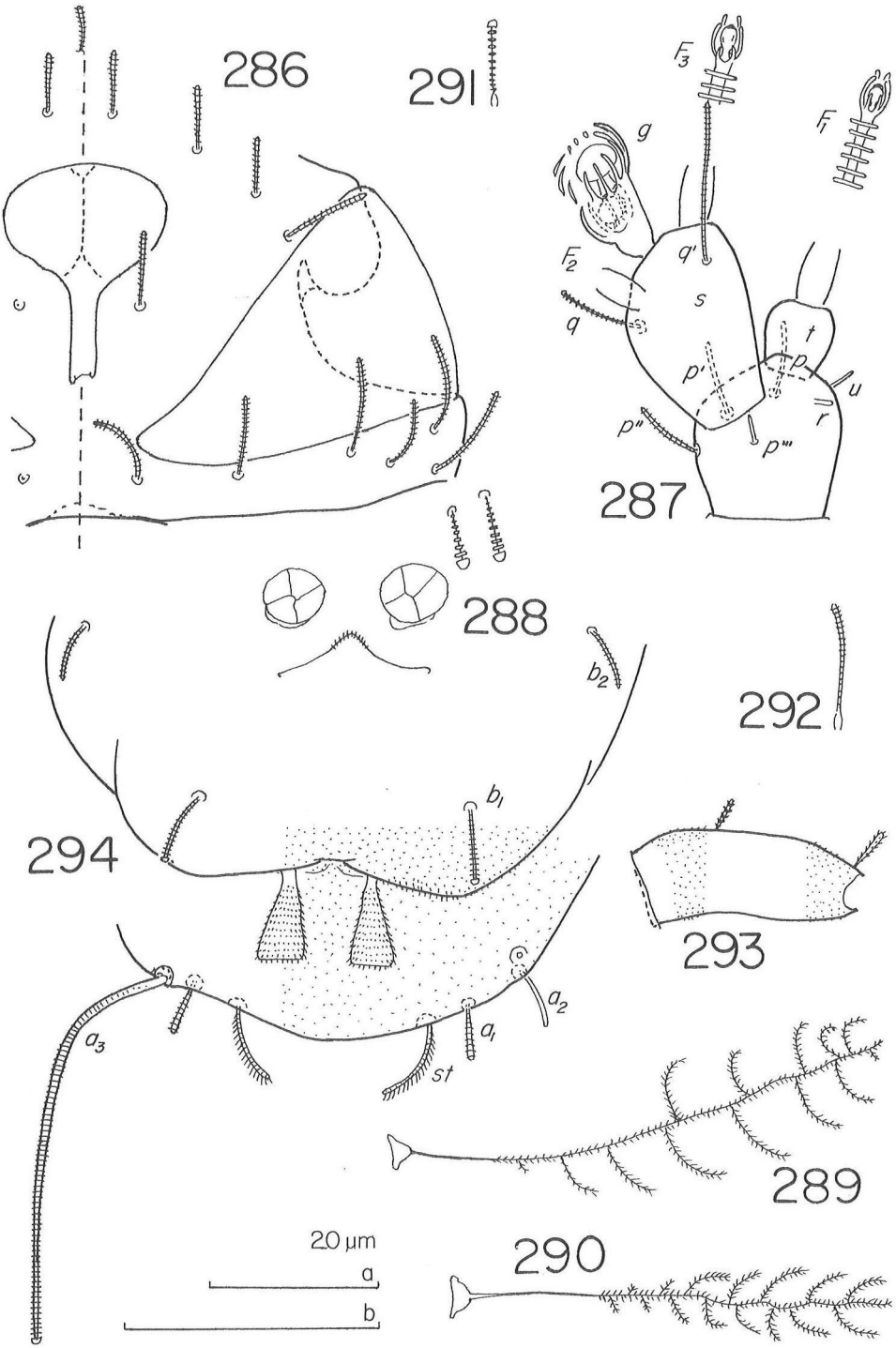
Figs. 254-263:
Polypauropoides naous n.sp., holotype figs. 254-257, 259-262; paratype fig. 258.
254: Head, median and right part, tergal view. **255**: Left antenna, sternal view. **256**: Collum segment, median and left part, sternal view. **257**: Tergite VI, median and submedian part. **258**: T_3. **259**: Seta on coxa of leg 9. **260**: Seta on trochanter of leg 9. **261**: Tarsus of leg 9; to the right distal seta, tergal view.
262: Pygidium, sternal view.
Polypauropoides biclaviger SCHELLER, fig. 263.
263: Left penis and seta on coxa of left leg 2, anterior view. Pubescence only partly drawn in 261 and 262. Scale a: 256, 263; b: 254, 257, 258; c: 259-262; d: 255.



Figs. 264-274:
Polypauropoides foliolus n.sp., holotype figs. 264, 266-274; paratype fig. 265.
264: Head, median and left part, tergal view. **265**: Right temporal organ, lateral view; anterosternal part lifted up from head surface. **266**: Right antenna, tergal view. **267**: Collum segment, median and left part, sternal view. **268**: Tergite VI. **269**: T_3. **270**: Penes and seta on coxa of left leg 2, anterior view. **271**: Seta on coxa of leg 9. **272**: Seta on trochanter of leg 9. **273**: Tarsus of leg 9; to the right distal seta, tergal view. **274**: Pygidium, posteromedian and right part, tergal view. Pubescence only partly drawn in 273 and 274. Scale a: 269, 270; b: 264, 265, 267; c: 266, 268, 271-274.



Figs. 275-285:
Polypauropoides monosetus n.sp., holotype.
275: Head, median and right part, tergal view. **276**: Right antenna, sternal view. **277**: Collum segment, median and left part, sternal view. **278**: Tergite VI, posterior part. **279**: T_1. **280**: T_3. **281**: Penes and seta on coxa of left leg 2. **282**: Seta on coxa of leg 9. **283**: Seta on trochanter of leg 9. **284**: Tarsus of leg 9. **285**: Pygidium, sternal view. Pubescence only partly drawn in 285. Scale a: 279-281; b: 275, 278, 282-285; c: 276, 277.



Figs. 286-294:

Polypauropoides cuneatus n.sp., holotype.

286: Head, median and right part, tergal view. **287**: Left antenna, sternal view. **288**: Collum segment, median and left part, sternal view. **289**: T_1. **290**: T_3. **291**: Seta on coxa of leg 9. **292**: Seta on trochanter of leg 9. **293**: Tarsus of leg 9. **294**: Pygidium, sternal view. Pubescence only partly drawn in 293 and 294. Scale a: 288-290; b: 286, 287, 291-294.